DEPARTMENTAL PLANNING MEETING

MARCH 6, 1992

NEW PRIMARY PROCESS

2021346067

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

NEW PRIMARY PROCESS

WORK PROCESSES:

ASSIST, SUPPORT, FACILITATE, AND COORDINATE THE ACTIVITIES OF PROCESS DEVELOPMENT DIVISION WITH THE VARIOUS REASEARCH DIRECTORATES.

REVIEW TEST DESIGNS AND SAMPLE COLLECTION PLANS TO ENSURE THEY ARE APPROPRIATE FOR THE STATED OBJECTIVE.

NPP UNIT OPERATIONS - PROJECTS

EQUIPMENT INSTALLATION & QUALIFICATION

PRIMARY PROCESSING / FLAVOR MODS

MAKE / PACK MONITORING

SAMPLE EVALUATION - LABS

SPECIAL SUBJECTIVE SMOKING PANEL

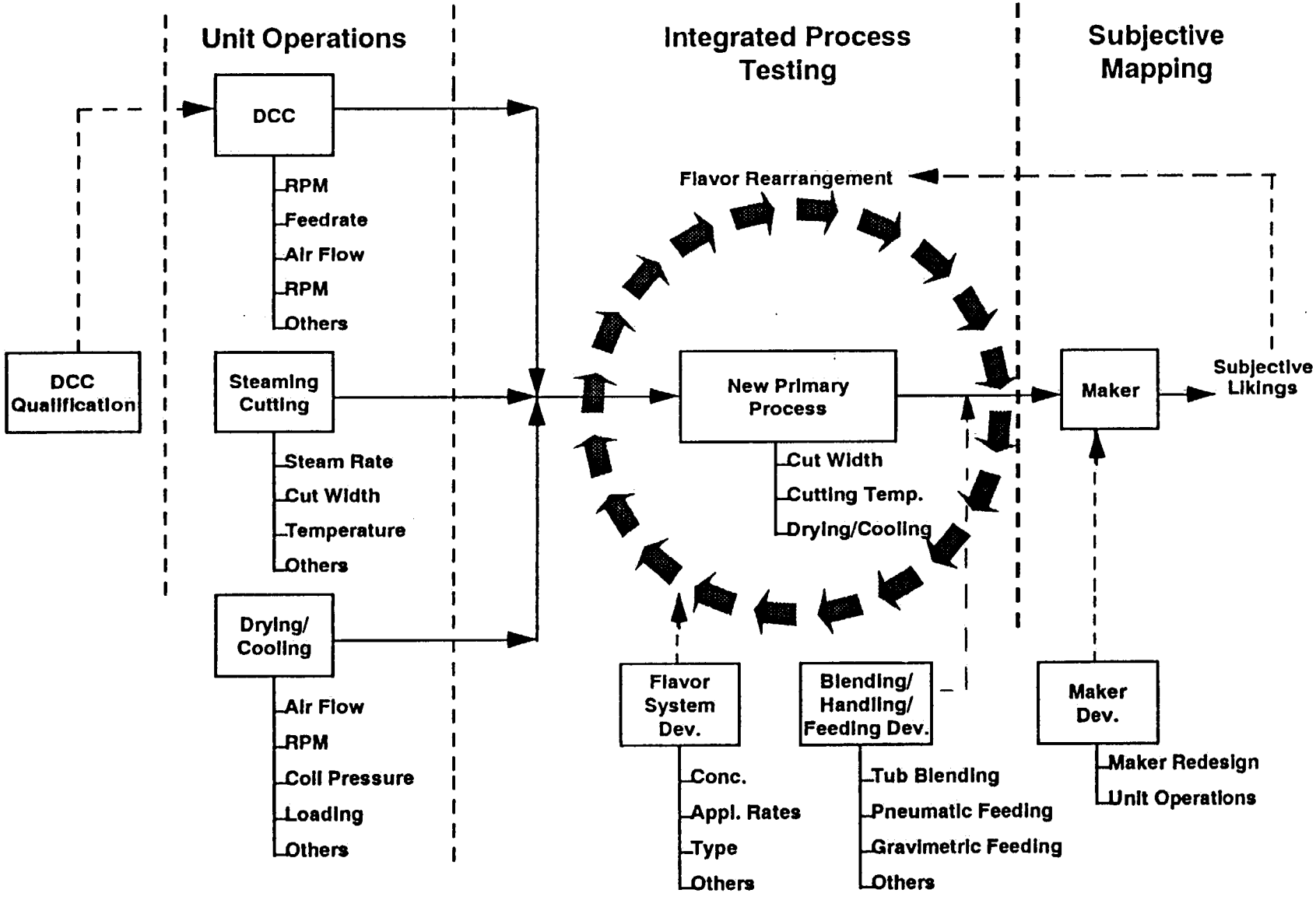
PRODUCT OPINION TESTING

INVESTIGATE AND IDENTIFY THE COMPONENTS IN MARLBORO BURLEY SPRAY WHICH MOST SIGNIFICANTLY IMPACT THE SUBJECTIVE SMOKING CHARACTER OF THE BURLEY LEAF.

2021346068

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

NEW PRIMARY PROCESS TEST APPROACH



Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

NEW PRIMARY PROCESS

INTRA & INTERDEPARTMENTAL INTERACTIONS:

TOBACCO PROCESSING DIVISION
CIGARETTE TECHNOLOGY
PHYSICAL CHEMISTRY
APPLIED RESEARCH
ANALYTICAL RESEARCH
TOBACCO PROCESS DEVELOPMENT
PROCESS DEVELOPMENT ENGINEERING
CENTRAL ENGINEERING
FLAVOR TECHNOLOGY
SEMI WORKS
PRODUCT EVALUATION DIVISION
CIGARETTE TESTING & STANDARDS
STRATEGIC INFORMATION & ANALYSIS GROUP

LEAF DEPARTMENT
ENGINEERING DEPARTMENT
CABARRUS PLANT OPERATIONS
OPERATIONS PLANNING DEPARTMENT
OPERATIONS SERVICES - FLAVOR DEV.
C.A.D.
CORPORATE PATENT DIVISION - NY

2021346070

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

NEW PRIMARY PROCESS

PRIORTIES:

QUALIFICATION OF DCC IN CABARRUS

a) BRIGHT, BURLEY, ORIENTAL (POL)
b) PMSL COMPLETED (NO DANCHI)
c) ALL COMPONENTS (POL)

SEMI WORKS INSTALLATION OF DCC

a) QUALIFICATION AT 2 FLOW RATES

UNIT OPERATION TESTING IN SEMI WORKS

CASINGS/FLAVORS ADDED IN DCC

INDIVIDUAL COMPONENT CUTTING/PROCESSING

BURLEY SPRAY REFORMUALTION

BRISTOL DCC-NPP QUALIFICATION (1992)

MARLBORO DCC-NPP QUALIFICATION (1993)

SITE SELECTION FOR NPP

a) SEMI WORKS
b) BERMUDA
c) CABARRUS

2021346071

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

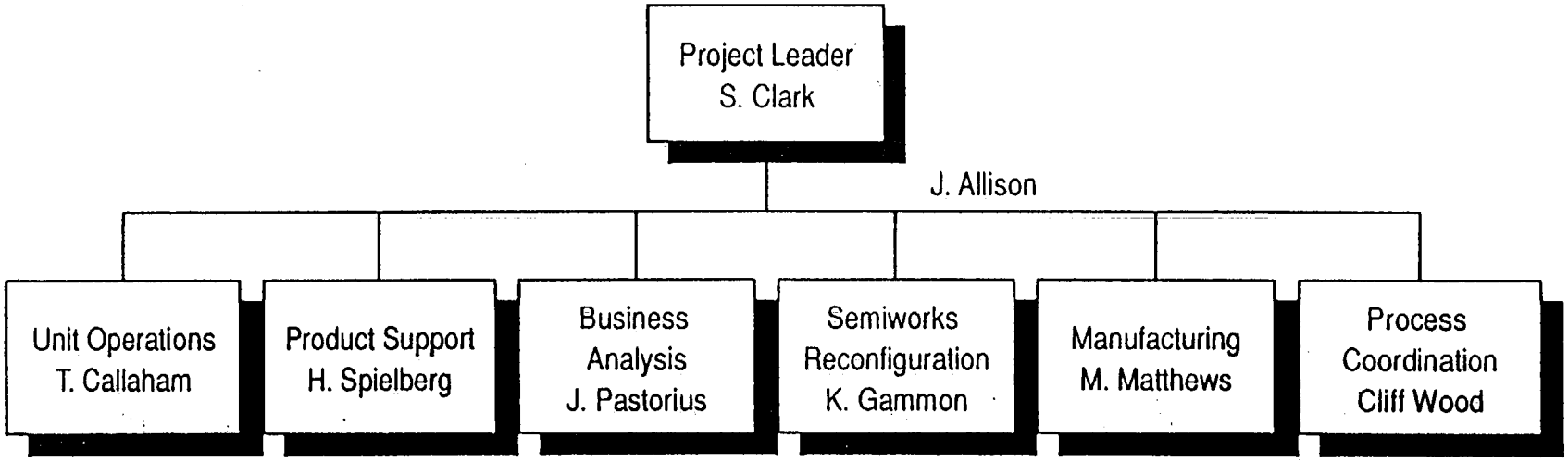
NEW PRIMARY PROCESS

RESPONSIBILITIES & WORK TEAMS

2021346072

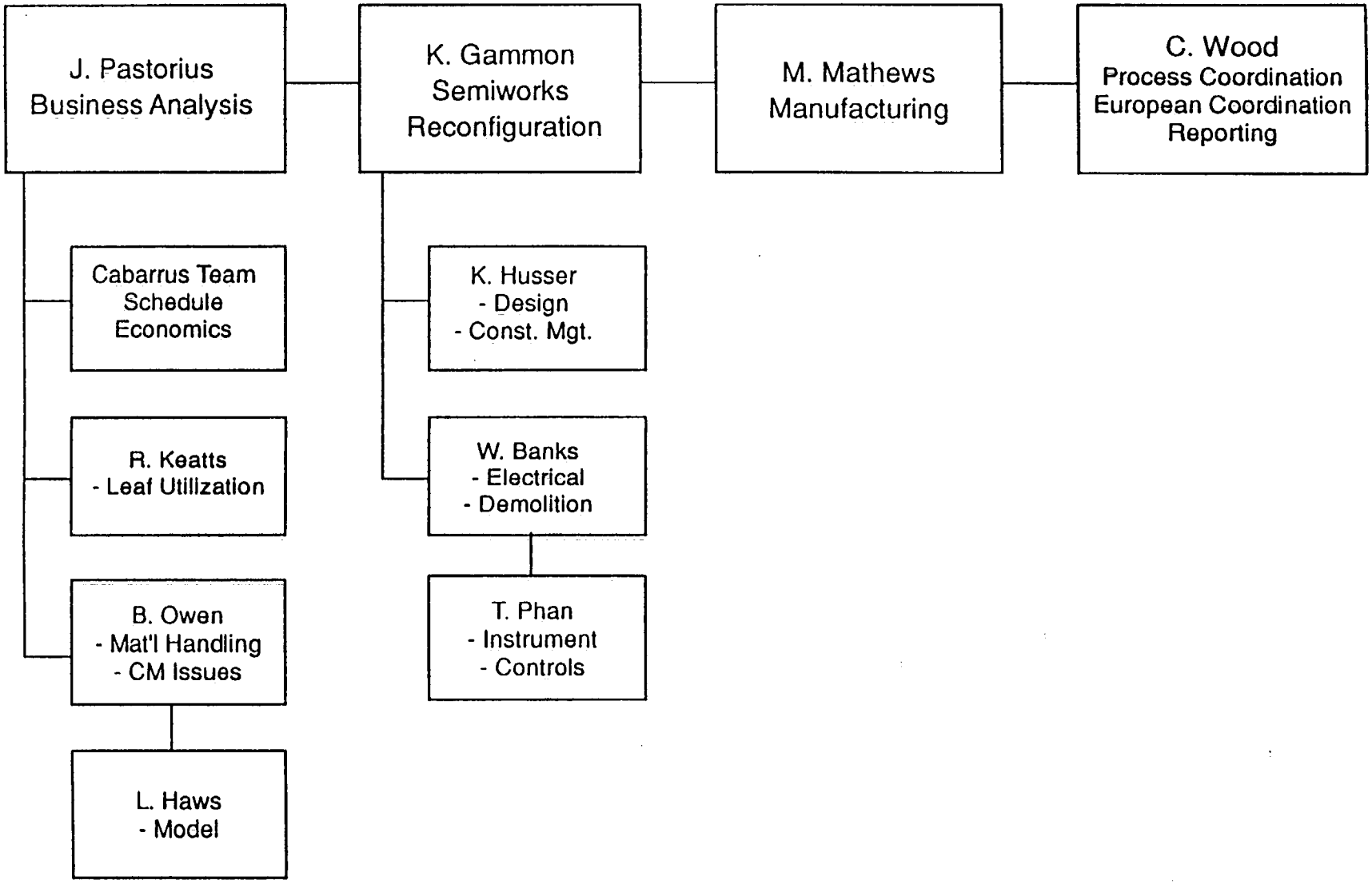
Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

NEW PRIMARY PROCESS TEAM



2021346073

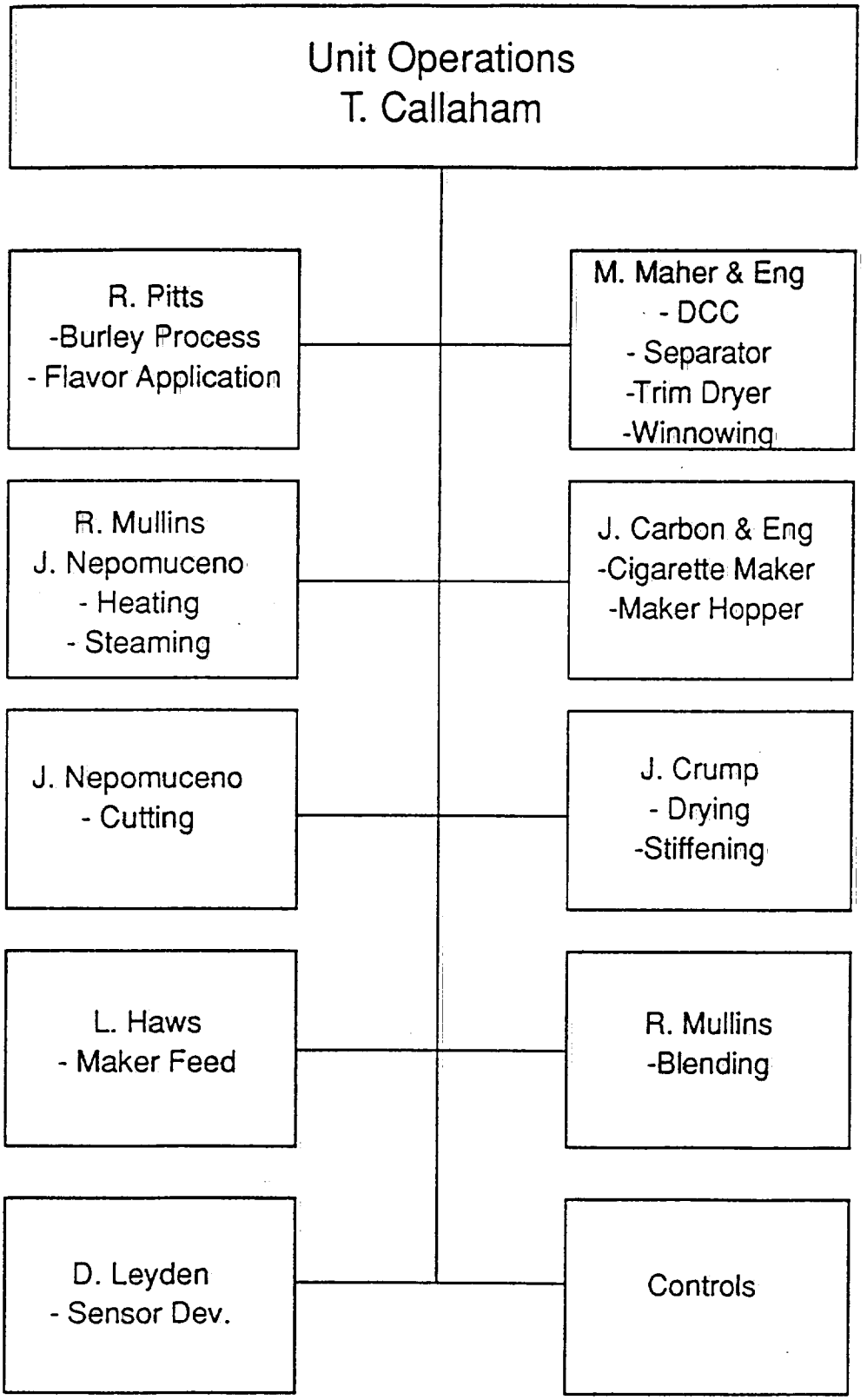
Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000



CLARK/CALLAHAM

2021346074

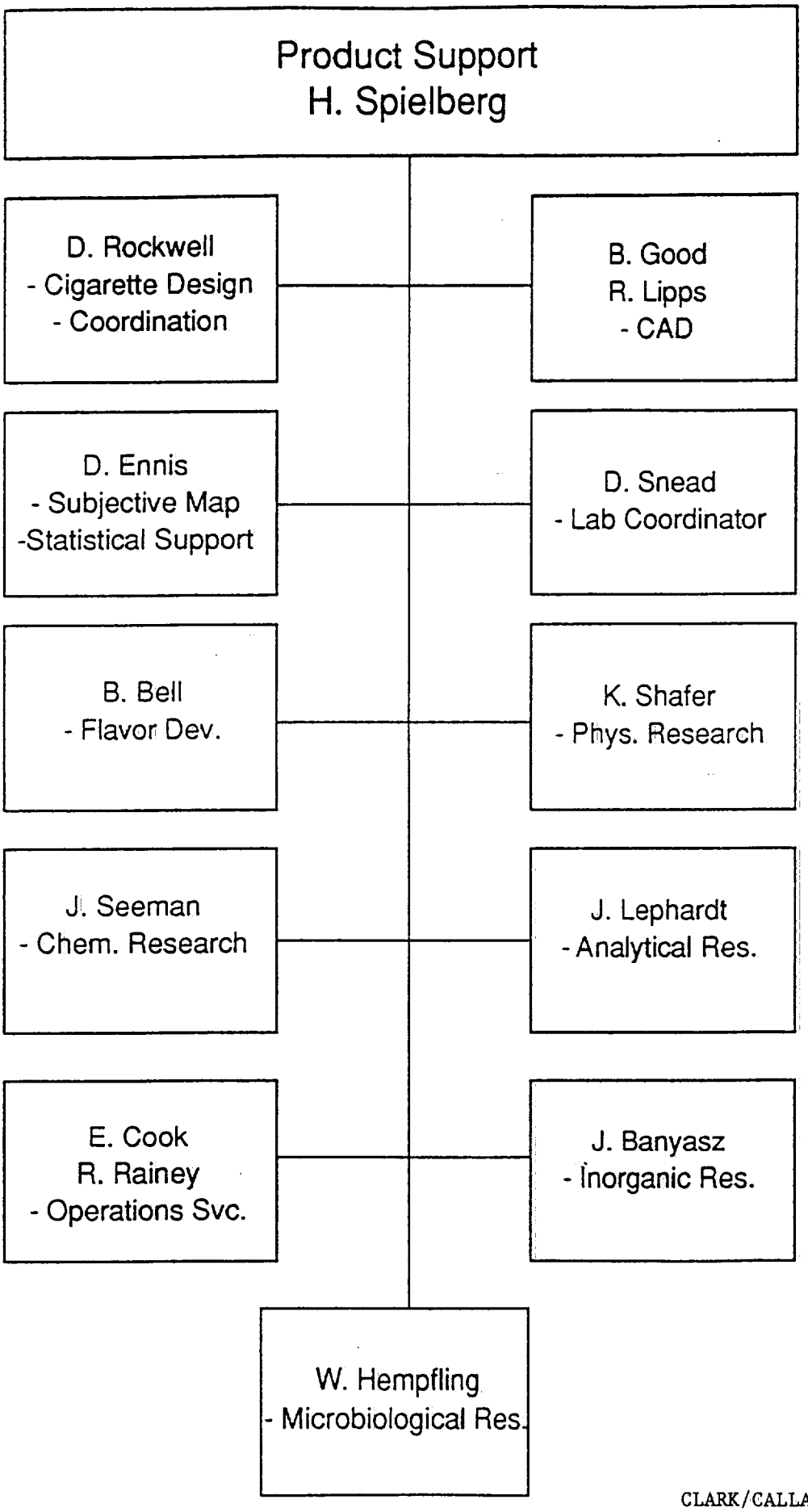
Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000



CLARK/CALLAHAM

2021346075

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000



2021346076

CLARK/CALLAHAM

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

NEW PRIMARY PROCESS

ISSUES / INFORMATION FLOW

SITE SELECTION FOR NPP

MARLBORO FLAVOR REFORMULATION

APRON VS. ROTARY DRYING

BLENDING INDIVIDUALLY CUT COMPONENTS

ANALYSIS OF ROD TO ROD VARIABILITY

UNFAMILIAR PROCESS & EQUIPMENT

NUMEROUS PROCESS VARIABLES

COST OF NPP INSTALLATION / EVALUATION

BENEFITS OF INTEGRATED NPP

2021346077

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

CAST LEAF PRIORITIES

I. **Objective**: Optimize the Current RCB Process for Improved Sheet Physical Properties, Production Capacity and Environmental Goals.

A. **Strategy**: Duplicate Production RCB in the Pilot to Subjectively Establish Processing Conditions.

1. **Plans**:

Replicate Trials of Normal BL Feedstock and Formulation Under Selected Process Conditions.

Establish Conditions to Duplicate Production RCB.

2. **Conclusions**:

These Results Will Be the Basis for Optimizations of Pilot Conditions Prior to Production NBL Trials

2021346078

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

B. **Strategy**: Evaluate Modified Formulations and Conditions with the NBL Process to Meet Objectives and Maintain Subjective Parity with RCB.

1. **Plans**:

Remake NBL (Finer Ground Feed-stock) as Follows:

- 7.5, 10.0 and 12.5 Parts NH_4OH

- 18, 20 and 22% Slurry Solids at Constant Dryer Temperature/Adjust Rate

- Binder Temperature 160^0 F, Slurry Aged 1 Hour.

2. **Conclusions**:

Subjective Parity with Production RCB from Pilot Trials Have Potential to Reduce Stack Emissions, Increase Capacity and Improve Physicals.

20213460 79

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

II. Objective: Develop a Cast Leaf Product to Meet Worldwide Capacity Needs.

A. Strategy:

RTD is Developing a Business Plan Analysis for a Plant in Europe. Pilot Trials are in Progress with Guar Binder and Flavor Systems to Substitute for RLB.

1. Plans:

- Identify Trials with Improved Physicals for Subjective Comparisons to RLB
- Guar Gum Levels Below 10% and/or Cobinder Systems
- Flavor Systems Include DAP, Isosweet and Flavors.

2021346080

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

CAST LEAF TESTING PROTOCOL

A. Weekly Planning Meetings

with RTD - Grant Gellatly

B. Test Sheet Trial Information

Supplied by RTD - Marty Parker

1. 100% Cast Leaf Cigarettes Requested

   Primary - B. Hoskin
   Make/Pack - B. Peace

2. Upon Completion of Selected Sheet Analyses

   - 24% Sheet Cigarettes Requested

   Primary - B. Hoskin
   Make/Pack - B. Peace
   ARD/CTSD - Analytical Support

2021346081

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

3. Upon Completion of Selected 24% Cigarette Analyses

- Cast Leaf Panel - K. Deane

C. Analytical/Subjective Results Interpreted

- B. Hoskin, V. Willis and J. Swain

D. Subjective Based Recommendation Made to Replicate/Modify Trials

2021346082

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

CAST LEAF RESPONSIBILITIES

1. Cast Leaf Coordinator	Holland/Gellatly
2. Flavor Support	Hoskin/Taylor
3. Binder Support	Physical/Chemical Research
4. Analytical Support	ARD/CTSD
5. Pilot Plant	RTD
6. Blends/Cigarettes	Hoskin/Peace
7. Cast Leaf Panel	Willis/Deane

2021346083

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

CAST LEAF

INTRA AND INTERDEPARTMENTAL INTERACTIONS

1. Flavor Technology
2. Cigarette Technology
3. Process Development
4. Physical/Chemical Research
5. Domestic and PME Leaf
6. Semi-Works
7. Analytical
8. Cast Leaf Panel

2021346084

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

FILTRATION TECHNOLOGY PROGRAM
1992 OPERATIONAL PLAN

I. GENERAL PROGRAM INTRODUCTION

The goal of the Filtration Technology program is to provide filtration research which will allow for the development of new or improved products. To support Operations in their five-year plan, Calgon SCCW carbon is being optimized by removing the additives. To grow the business in the short-term, improvements in cost and availability of the Merit Ultima filter core material are being developed. Also, significant work on carbon web materials and porous combining wrap are supporting our Export business. PM web and other novel web materials are being developed to address our consumer's desires with new technologically driven products. CO reduction via catalysts and development of novel filter types is further supporting that goal. External requirements and future products are being supported with model making, process development, and development of new filtration technology.

II. OUTLINE

STRATEGIC GOAL NUMBER 1
SUPPORT OPERATIONS FIVE YEAR OBJECTIVES

OBJECTIVE:

Investigate alternative plasticizer systems for cellulose acetate. Determine issues related to the implementation of these plasticizer systems for new products or as a replacement for triacetin.

Strategies:

Conclude study of triethyl citrate as a replacement for triacetin on menthol and regular product types.

Determine the issues related to natural-based glycerine triacetin.

Screen suggested plasticizers to determine their fitness for use on PM products.

OBJECTIVE:

Design and demonstrate a product and process to produce a Parliament filter system which does not require the use of on-line laser ventilation perforation.

Strategies:

Investigate the use of hollow tubes in filter component combining using porous combining wrap and conventional perforated tipping paper.

Investigate the use of pre-perforated mouthpiece paper conventional perforated tipping paper.

2021346085

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

STRATEGIC GOAL NUMBER 3
ADDRESS CONSUMERS DESIRES WITH NEW TECHNOLOGY-DRIVEN PRODUCTS

OBJECTIVE:
Develop web cigarette filtration system(s) which offer the consumer perceived benefits when incorporated into new cigarette systems.

Strategies:
Develop a non-woven wet-laid sheet of cellulose acetate and cellulosic fibers.

Develop a non-woven dry-laid sheet of cellulose acetate with or without thermoplastic bonding fibers.

Develop additives and additive application systems to modify the filtration and/or subjective performance of various web filter media.

Develop cellulose or cellulose acetate modification processes to provide filtration and/or subjective performance advantages for new products.

Develop manufacturing processes and operations to produce filters from new filter media.

OBJECTIVE:
Develop a CO removal catalyst for use in a filter system.

Strategies:
Test CO removal catalysts supplied by Seton Hall University.

Develop a room temperature CO removal catalyst using Seton Hall University technologies.

OBJECTIVE:
Design, evaluate, and develop new filter concepts that provide benefits to our consumers.

Strategies:
Develop the capability to manufacture PCC filters in-house.

Conduct joint development of heterofil filter materials with Hoechst/Celanese.

Investigate CA tow made with reduced bleach or unbleached cellulose.

Evaluate DHS Compact tow production system.

2021346096

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

STRATEGIC GOAL NUMBER 3
ADDRESS CONSUMERS DESIRES WITH NEW TECHNOLOGY-DRIVEN PRODUCTS
(con't)

Evaluate ultra low denier per filament tow items.

Evaluate novel vendor filters.

Investigate/evaluate degradable filter material.

FILTER TECHNOLOGY SUPPORT TO OTHER AREAS

Removal of additives from SCCW carbon.
Evaluation of carbon web samples on Project 41 in PCC filter.
Qualification of new precoated porous combining wrap for use on Lark tar reduction.
Evaluation of strip applicator units (PM and MOLINS designs).
Domestic Product Development
Sensory Technology Program.
Tobacco Biochemistry Program.
Support Project BETA with filtration technology.
Evaluation of degradable packaging materials as they become available.

2021346087

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PAPER TECHNOLOGY

OPERATIONAL PLAN ----- ISSUES AND OBSTACLES

2021346088

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

OUTLINE OF PAPER TECHNOLOGY OPERATIONAL PLANS

I. Introduction

II. Cigarette Paper Specifications/Quality (Strategic Goal #1)
1. Effects of paper properties
2. Effects of paper properties - low delivery models

III. Cigarette Paper Specifications/Cost (Strategic Goal #1)
1. Cost profile
2. Cigarette evaluation
3. Qualify second source for 10-058A paper

IV. Wood Pulp Papers (Strategic Goal #1)
1. Assess availability of wood pulps
2. Evaluate papers
3. Determine paper specifications
4. Demonstrate parity of full margin products

V. Reduced Sidestream Visibility (Strategic Goal #3)
1. Finalize Virginia Slims/Superslims paper
2. Develop ground magnesite paper
3. Develop synthetic magnesite paper
4. Develop hydromagnesite/brucite filled paper
5. Develop sol-gel process magnesium carbonate paper
6. Develop rhombohedral calcium carbonate paper
7. Sidestream chamber analytical studies
8. Pyrolysis chemistry of cigarette paper

VI. Reduced Sidestream Irritation (Strategic Goal #3)
1. Identify causes of irritation
2. Develop analytical methods
3. Devise methods to reduce irritants
4. Define irritation

VII. Burn Rate Control(Strategic Goal #4)
1. Apply cellulosic bands to paper on wet end
2. Apply cellulosic bands by printing
3. Develop paper strip application
4. Develop slower burning conventional papers -- rhombohedral calcium carbonate

2021346089

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PAPER TECHNOLOGY

Cigarette Paper Specifications/Quality (Strategic Goal #1)

A. OBJECTIVE: To determine those cigarette paper parameters which most affect cigarette performance and manufacturing processes and set meaningful specifications and tolerances for cigarette papers.

B. STATUS ---- *ISSUES*

1. Calcium carbonate tolerances tightened, but not at the desired target level.

2. Decrease in cooperation from Kimberly-Clark, in general.

C. PARTICIPATING GROUPS/INDIVIDUALS

PAPER DEVELOPMENT	FLOYD, BALDWIN
PED	TINDALL, JONES
QA	WERKMEISTER
PURCHASING	FORSMARK, EMIG, GRIFFIN
MANUFACTURING/OP	
SERVICES	SWEENEY, WATTS
SUPPLY CHAIN	B.CARTER, ROWECAMP

D. OTHER RESOURCES

ARD
CTSD
SEMIWORKS

2021316090

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

Cigarette Paper Specifications/Cost (Strategic Goal #1)

A. OBJECTIVE: To consolidate three grades of 46 Coresta flax papers with elevated citrate levels used in manufacturing to one grade, and to determine whether further consolidation of the existing seven grades is feasible.

B. STATUS ---- *ISSUES*

1. Cost of 10-058A paper needs to be further negotiated with KC.

2. Alternative suppliers need to be developed.

C. PARTICIPATING GROUPS/INDIVIDUALS

PAPER DEVELOPMENT	GEISZLER
QA	WERKMEISTER
PURCHASING	EMIG
MANUFACTURING/OPERATIONS	
SERVICES	SWEENEY, WATTS
SUPPLY CHAIN	R. KELLY

D. OTHER RESOURCES

FINANCE
INDUSTRIAL ENGINEERING

2021346091

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

Wood Pulp Papers (Strategic Goal # 1)

A. OBJECTIVE: Evaluate the viability of replacing flax papers with wood pulp papers for full margin bands and develop the appropriate papers, as required.

B. STATUS ---- *ISSUES*

1. Pulp suppliers processing additives.

2. Possible subjective unacceptability.

3. Consistency of pulp supply.

C. PARTICIPATING GROUPS

PAPER DEVELOPMENT ROGERS, GEISZLER, BALDWIN
PURCHASING FORSMARK, EMIG
PRODUCT DEVELOPMENT WHITE

D. OTHER RESOURCES

ARD
CTSD
SEMIWORKS
PED
RICHMOND PANEL

2021346092

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

Products with Reduced Sidestream Visibility (Strategic Goal #3)

A. OBJECTIVE: To develop a proprietary cigarette wrapper which will reduce visible sidestream smoke by at least 70% in a full circumference cigarette, as compared to an appropriate control, with subjectives equivalent to a conventional cigarette in 1992.

B. STATUS ---- *ISSUES*

Calcium carbonate papers:

1. Phosphate-calcium carbonate interaction is process dependent and affects sidestream reduction.

2. New process at Kimberly-Clark's Spotswood mill which requires processing aid,
3. Porosity-sidestream reduction relationship appears to be different from that of previous papers.

Magnesium carbonate papers

Baymag magnesite

1. Time and cost to commercialize.

Synthetic magnesite

1. Time and cost to commercialize greater than with Baymag.

Sol-gel magnesium carbonates

1. Papermaking and scale-up issues.

Best bet of synthetic mag carbonates: NY Poly material, but not in 92.

C. PARTICIPATING GROUPS/INDIVIDUALS

PAPER DEVELOPMENT BALDWIN, BOKELMAN, GOODMAN, TAFUR, ROGERS, FLOYD,
CHEMICAL RESEARCH SEEMAN, PODRAZA, KALLIANOS, PAINE, FOURNIER

D. OTHER RESOURCES

ARD
CTSD
SEMIWORKS
PED & FLAVOR TECHNOLOGY

2021316693

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

Reduced Sidestream Irritation (Strategic Goal #3)

A. OBJECTIVE: Initiate studies to assess feasibility of reducing the levels of those chemical classes in sidestream smoke which are most likely to contribute to irritation by the fourth quarter of 1992.

B. STATUS --- *ISSUES*

1. Just getting started, making some progress.

2. Difficult assignment.

C. PARTICIPATING GROUPS

CHEMICAL RESEARCH
ANALYTICAL RESEARCH
PED
PAPER DEVELOPMENT
DOMESTIC & INTERNATIONAL PRODUCT DEVELOPMENT

D. OTHER RESOURCES

CTSD
SEMIWORKS

2021316094

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

Banded Papers (Strategic Goal #4)

A. OBJECTIVE: To develop procedures for the application of transverse bands to cigarette paper in order to control burn rate by January, 1993.

B. STATUS ---*ISSUES:*

1. Need for new slurry to replace Cellulon for wet-end application.

2. Need to define and overcome causes of cross-web material gradient with moving orifice device.

3. Need to develop alternative materials (polysaccharides) for strategic or product related requirements.

4. Need to determine scale-up options

C. PARTICIPATING GROUPS

PAPER DEVELOPMENT	ROGERS, GAUTAM, FLOYD, BALDWIN
FILTER DEVELOPMENT	RYDER, HEARN
PRODUCT DEVELOPMENT	NEWMAN
PHYSICAL RESEARCH	DWYER
ENGINEERING	VOGT

D. OTHER RESOURCES

ARD
SEMIWORKS
CTSD

2023216095

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

How Strategic Plan Is Developed

- PM USA Upper Management Input
  - Overall Mission and Broad Strategies

- Company-Wide Information
  - Marketing - One Year Product Plan
  - PM International - Three Year Export Product Plan
  - Market Research - USA Market Trends
  - PM USA Planning

    PM USA Business Strategies

    Competitive Intelligence

2021346096

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

How Strategic Plan Is Developed

- PM USA Upper Management Input
  - Overall Mission and Broad Strategies
- Company-Wide Information
  - Marketing - One Year Product Plan
  - PM International - Three Year Export Product Plan
  - Market Research - USA Market Trends
  - PM USA Planning - PM USA Business Strategic Competition Intelligence

2021316097

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

How Strategic Plan Is Developed

- Company-Wide Information (cont'd)
  - Finance - Financial Goals
  - Corporate Affairs - Government Regulations
  - Legal - Patent Information
  - Operations

    Manufacturing Planning - Factory Data

    Leaf - Leaf Buying Information

    Manufacturing Services - Specification Issues

    Purchasing - Direct Materials Information

    Engineering - Environmental Issues

    Q.A. - Quality Targets and Concerns

2021346038

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PM USA R&D Strategic Goals

1. Support Operations' Five-Year Objectives in the Areas of Quality, Cost/Productivity, Capacity, and Environmental Compliance.

2021316099

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

Strategic Goal Number 1

- Support Operations' Five-Year Objectives in the Areas of Quality, Cost/Productivity, Capacity, and Environmental Compliance
  - Support Other Operations Departments - R&D is Generally Not Driving These Projects - Provides Resources and Technical Expertise
  - Action Plans and Milestones Are Formulated Cross-Functionally and Are Included in Cross-Functional Operations Plan

2021316100

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PM USA R&D Strategic Goals

1. Support Operations' Five-Year Objectives in the Areas of Quality, Cost/Productivity, Capacity, and Environmental Compliance.
2. Support the Growth of the Domestic and International Businesses Short Term, and Provide Required Support to Affiliates and Licensees.

2021346101

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

Strategic Goal Number 2

- Support the Growth of the Domestic and International Businesses Short Term, and Provide Required Support to Affiliates and Licensees.
  - Projects Are Generally New Commercial Products for the Domestic and International Markets
  - Projects Are Business Plan Driven and Programs and Products Are Developed Jointly With Marketing
  - Projects Are Generally Short Term - Less Than Two Years

2021346102

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PM USA R&D Strategic Goals

1. Support Operations' Five-Year Objectives in the Areas of Quality, Cost/Productivity, Capacity, and Environmental Compliance.
2. Support the Growth of the Domestic and International Businesses Short Term, and Provide Required Support to Affiliates and Licensees.
3. Address Consumers' Desires.

2021346163

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

Strategic Goal Number 3

- Address Consumers' Desires
  - Projects Are Designed to Add Value to Our Products
  - Projects Are Generally Intermediate in Length - One to Three Years
  - Each Project May Benefit From the Work of Several Programs Simultaneously
  - Projects Generally Require Development of New Technology

2021346104

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PM USA R&D Strategic Goals

1. Support Operations' Five-Year Objectives in the Areas of Quality, Cost/Productivity, Capacity, and Environmental Compliance.
2. Support the Growth of the Domestic and International Businesses Short Term, and Provide Required Support to Affiliates and Licensees.
3. Address Consumers' Desires.
4. Address External Requirements.

2021346105

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

Strategic Goal Number 4

- Address External Requirements
  - Projects Are Generally Defensive
  - Projects Are Generally Intermediate in Length - One to Three Years
  - Each Project May Benefit From the Work of Several Programs Simultaneously
  - Projects Often Require Development of New Technology

2021346108

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PM USA R&D Strategic Goals

1. Support Operations' Five-Year Objectives in the Areas of Quality, Cost/Productivity, Capacity, and Environmental Compliance.
2. Support the Growth of the Domestic and International Businesses Short Term, and Provide Required Support to Affiliates and Licensees.
3. Address Consumers' Desires.
4. Address External Requirements.
5. Develop Technologies Applicable to Future Products and Processes.

2021346107

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

Strategic Goal Number 5

- Develop Technologies Applicable to Future Products and Processes
  - Projects Are Long-Term - About Five Years
  - Projects Require Development of Sophisticated New Technologies
  - Initial Work is Primarily Carried Out in the Research Department

2021346108

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

R&D Major Programs - 1992

Program	1992 Resources (Projected, %)
Domestic Product Development & Support	25.4
Operations Support	10.8
International Product Development & Support*	10.0
Paper Technology	8.2
Project Beta	5.9
New Expanded Tobacco	5.3
Tobacco Biochemistry	4.9
Cast Leaf	4.6
New Primary Process Program	4.6
Project Tomorrow	3.5
Filter Technology	3.4
Environmental Support	3.3
Sensory Technology	2.4
Total	92.3

*Includes 39 PMPI Personnel

2021316169

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

Major Program Contribution to Strategic Goals

Major Programs	Strategic Goals				
	1	2	3	4	5
Support to Operations					
Operations Support	x				
Product Development					
Domestic Product Dev. & Support	x	x	x		
Intn. Product Dev. & Support	x	x	x		
Product Technology					
Beta					x
Paper Technology	x	x	x	x	x
Filter Technology	x	x	x	x	x
Project Tomorrow				x	
Sensory Technology			x		
Tobacco Biochemistry					x
Process Technology					
NET					
Batch	x	x			
Continuous					x
Cast Leaf					x
New Primary Process Program	x	x			
Environmental Support	x			x	

2021346110

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

Research and Development
1992 Original Budget

Total R&D Budget including INBIFO - $11, 917	$ 99,589
Less: Non-Controllable Costs:	
Contributions	11,027
Total Controllable R&D Costs	$ 88,562

2021316111

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

Research and Development
1992 Original Budget

Total R&D Budget (Richmond)	$ 90,355
Less: Non-Controllable Costs:	
Contributions	11,027
Sub-Total	79,328
Plus INBIFO	11,917
Total Controllable R&D Costs	$ 91,245

2021346112

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

Research and Development
1992 Original Budget

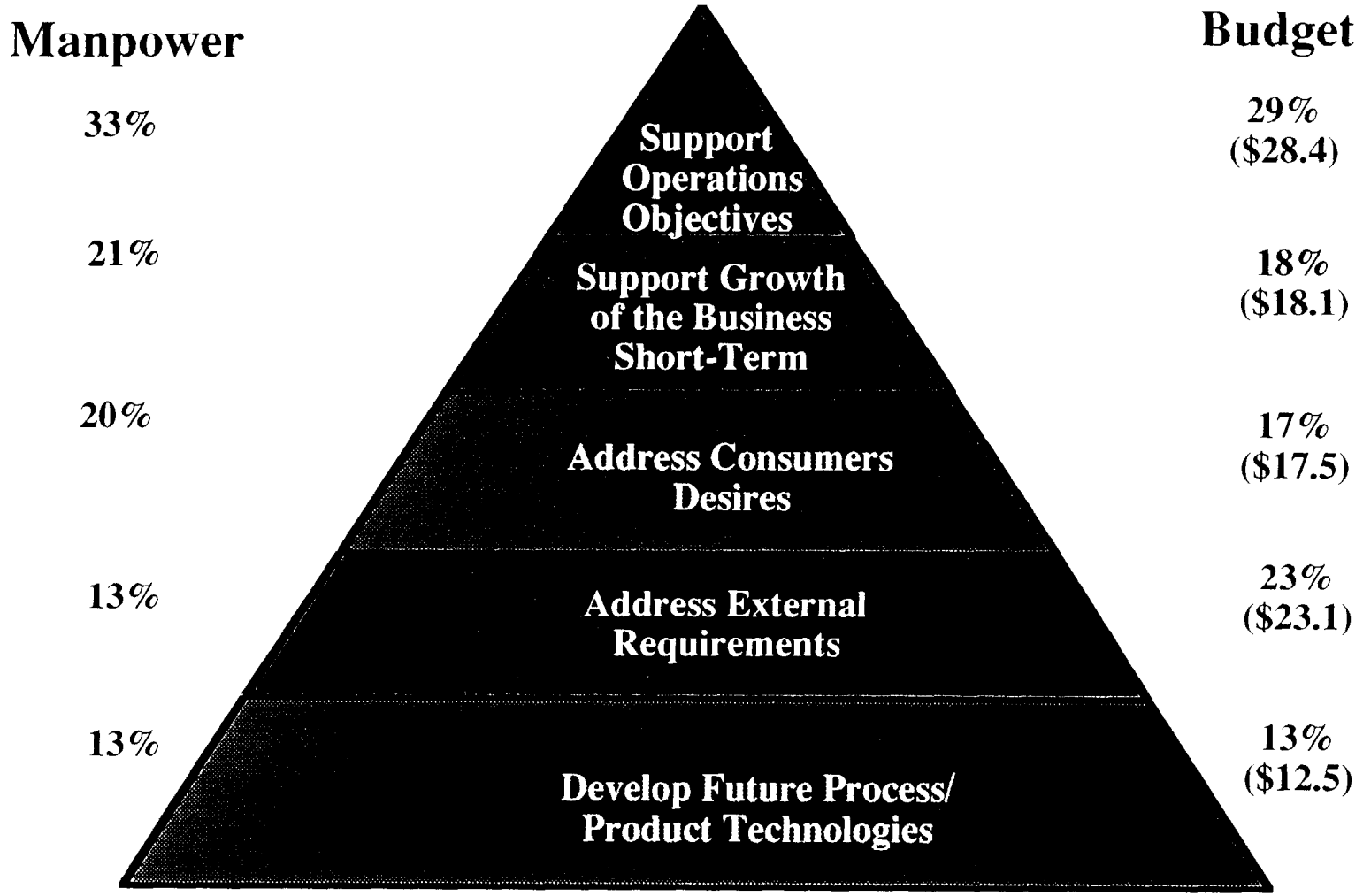
Headcount	
PM USA	
Salaried	570
Hourly	31
INBIFO	144
International*	39
Total People Managed	784
People Cost as a Percentage of the Controllable Budget	55%

*Directly Paid for by International

2021316113

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PM USA R&D
Manpower Allocation



2021346114

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PRODUCT DEVELOPMENT

- **Domestic Product Development & Support**

- **International Product Development & Support**

PM USA - OPERATIONS - R&D

2021316115

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PRODUCT DEVELOPMENT

R&D Major Programs - 1992

Program	1992 Resources (Projected, %)
Domestic Product Development & Support	25.4
Operations Support	10.8
International Product Development & Support*	10.0
Paper Technology	8.2
Project Beta	5.9
New Expanded Tobacco	5.3
Tobacco Biochemistry	4.9
Cast Leaf	4.6
New Primary Process Program	4.6
Project Tomorrow	3.5
Filter Technology	3.4
Environmental Support	3.3
Sensory Technology	2.4
Total	92.3

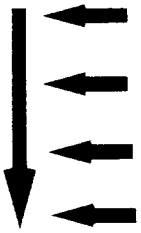
*Includes 39 PMPI Personnel

2021346115

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PRODUCT DEVELOPMENT

R&D FUNCTIONAL ORGANIZATION



- PM USA Marketing Plan
- PMI Marketing Plans
- PM USA Operations Plan
- PM USA R&D Strategic Plan

PM USA BUSINESS PLAN

R&D OPERATIONAL PLAN

MAJOR PROGRAM STRUCTURE

The Product Development Directorate has the lead responsibility for the following major programs:

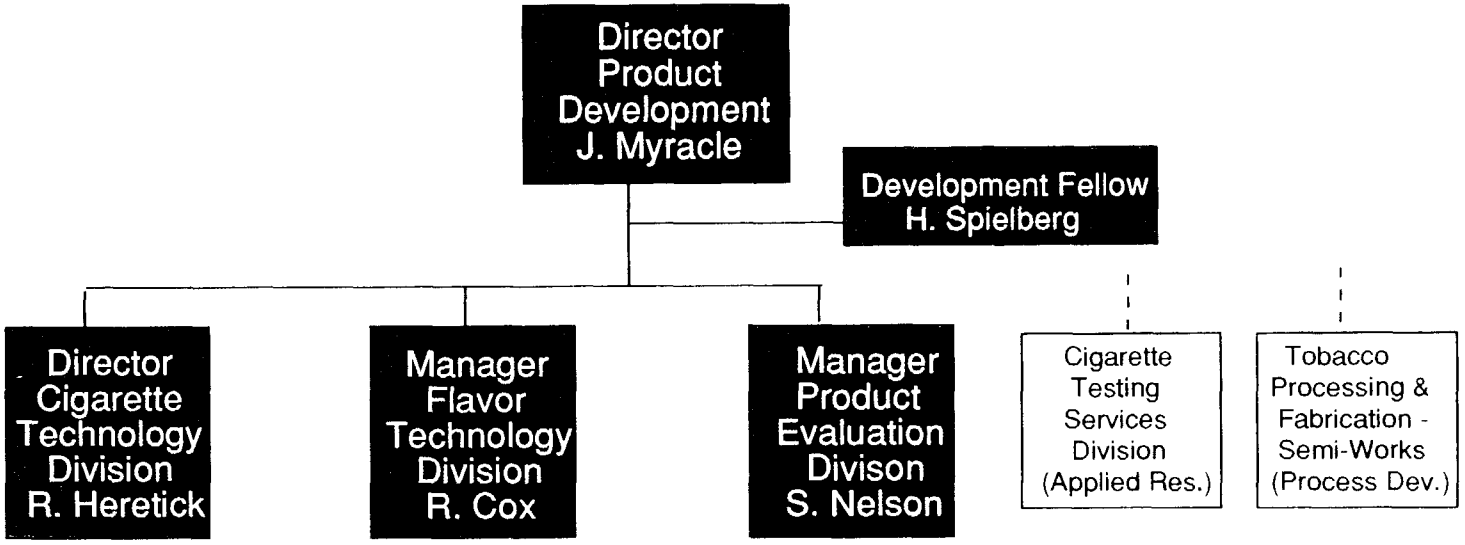
	1992 Resources
• Domestic Product Development & Support	25.4%
• International Product Development & Support	10.0%
• Paper Technology Program	8.2%
• Filter Technology Program	3.4%

2021316117

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PRODUCT DEVELOPMENT

FUNCTIONAL ORGANIZATION


Director Product Development J. Myracle
Development Fellow H. Spielberg
Director Cigarette Technology Division R. Heretick
Manager Flavor Technology Division R. Cox
Manager Product Evaluation Divison S. Nelson
Cigarette Testing Services Division (Applied Res.)
Tobacco Processing & Fabrication - Semi-Works (Process Dev.)

- Domestic Product Dev.
- Export Product Dev.
- Licensee/Affiliate Product Dev.
- Paper Technology
- Filter Technology

- Flavor Investigations & Support
- Domestic Flavor Dev. & Technology Support
- International Flavor Dev. & Brand Support

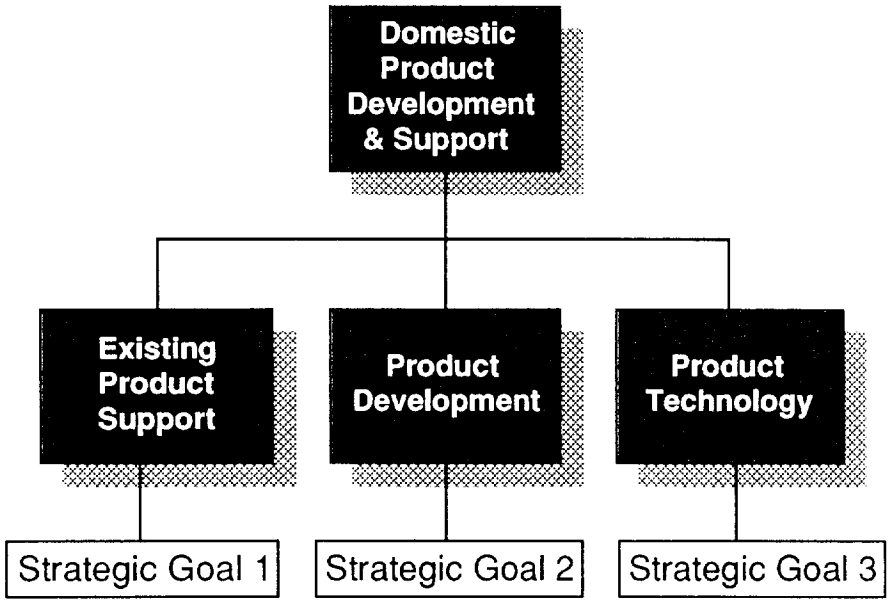
- Domestic Quantitative Qual. Res.
- International Quantitative Qual. Res.
- Applied Statistics
- POL Operations

2021315115

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PRODUCT DEVELOPMENT

Major Program Structure For: Domestic Product Development & Support



PM USA - OPERATIONS - R&D

2021346119

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PRODUCT DEVELOPMENT

Major Program Activity Classification For: Domestic Product Development & Support

Existing Product Support

- Quality
- Capacity and Flexibility
- Cost and Productivity
- Operations Plan Driven

Product Development

- New Commercial Products
- Typically Short Term In Nature
- Business Plan Driven
- Projects Involve:
  - Marketing
  - Sales
  - Engineering
  - Mfg. Services
  - Q.A.
  - Leaf Manufacturing

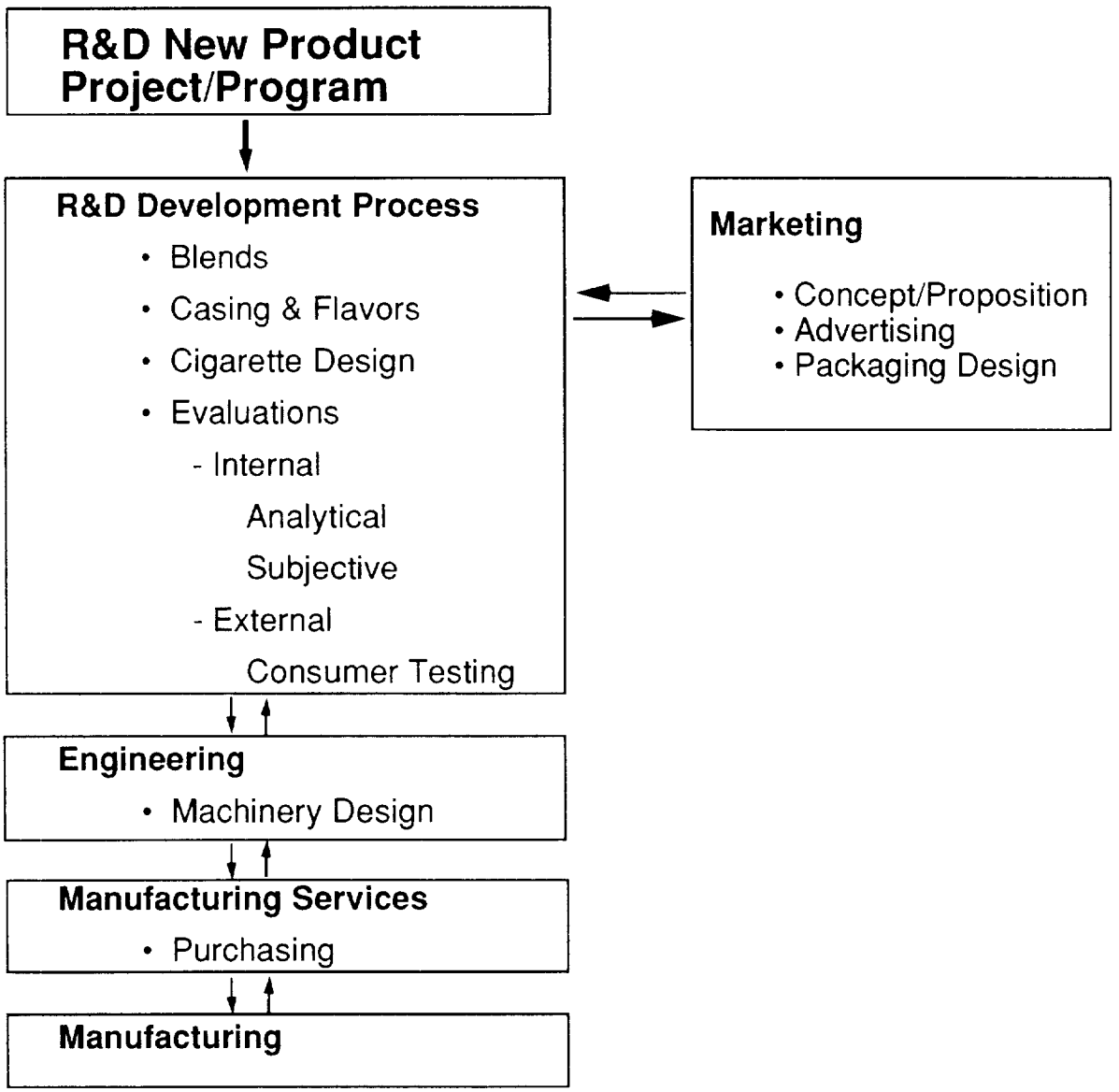
Product Technology

- "Tool Box" Programs
- Create Technologies To Be Incorporated In New Products Or To Support Existing Products
- R&D Plan Driven

2021343430

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PRODUCT DEVELOPMENT



2021216121

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PRODUCT DEVELOPMENT

Major Program Projects For: Domestic Product Development & Support

Existing Product Support

- Net Inclusion
- Packaging Solvent Evaluation
- Specification Consolidation Program
- Competitive Testing

Product Development

- Marlboro
  - Medium 100's
- Premium Value
  - B&H KS
  - Va. Slims K.S.
  - Parliament Men.
  - Merit (1,4,6 mg)
- Discount Brands
  - Alpine
  - Additional Line Extensions

Product Technology

- Project Art
- Low Tar/High Flavor
- Project Lotus
- Project Ambrosia
- Flavor Technology
  - Project Grain
  - Marlboro RI
  - Stable Menthol

Other R&D Contributing Programs

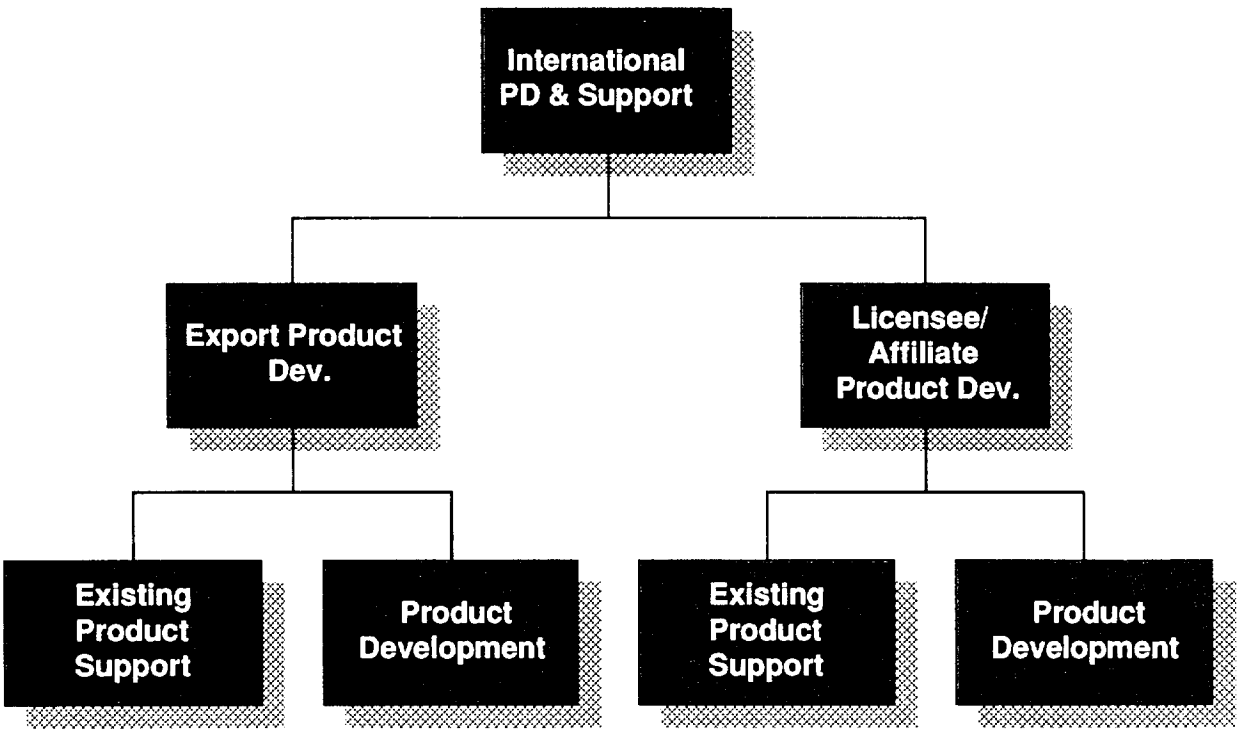
- Paper Technology
- Filter Technology
- Sensory Technology

2023161422

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PRODUCT DEVELOPMENT

Major Program Structure For: International Product Development & Support



PM USA - OPERATIONS - R&D

2021316123

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PRODUCT DEVELOPMENT

Major Program Projects For: International Product Development & Support

EXPORT PRODUCTS

Existing Product Support

- Repackaging of Existing Products
- L.S. → K.S. Box Conversions
- Lark Family Tar Reduction (Japan)
- Marlboro Family Tar Reduction (Korea)
- Merit Ultra Special KSB (GCC)

Product Development

- Project 41 (Japan)
- Marlboro 100's Box (Japan)
- Parliament Ultra Lights (Japan)
- NPD (Korea)
- Pan-Asia Menthol
- Evaluate PM USA Product Technologies
  - De-Nic
  - Project Lotus
  - Project Ambrosia
- Consumer Research
  - Danchi Panels
  - SCP
  - HKCP

PM USA - OPERATIONS - R&D

2021216121

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PRODUCT DEVELOPMENT

Major Program Projects For: International Product Development & Support

LICENSEE/ AFFILIATE PRODUCTS

Existing Product Support

- Project Omega (MF, PHI)
- Ningbo Diet Utilization (China)
- Marlboro Improvement (L.A. - I)
- USA Flavor Sourcing (Mexico)
- Product Amethist (EEC)

Product Development

- Project Tang (L&M, Indonesia)
- Project Jupiter (MF, Malaysia)
- Monterey (China)
- Local Trademark Development (L.A.)

2021316425

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PRODUCT DEVELOPMENT

FILTER TECHNOLOGY PROGRAM

Program Objective:

Provide Filtration "Tools" For New And Existing Products

This Program Supports:

Goal One: Support To Operations

- Lark Combining Wrap
- Carbon Consolidation
- Alternate PZ's
- Eliminate Black Tow

Goal Two: Product Development - Short Term

- Paper Core Concentric Filter
- Carbon On Paper Web (Project 41)

Goal Three: Address Consumer Desires

- Web Filter Materials (Low Tar/High Flavor)
- Selective Filtration (CO Reduction)
- Hoechst Celanese Joint Development Program

PM USA - OPERATIONS - R&D

2023216425

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PRODUCT DEVELOPMENT

PAPER TECHNOLOGY PROGRAM

Program Objective:

Provide Cigarette Paper Product "Tools"
For New And Existing Products

This Program Suports:

Goal One: Support To Operations

- Development of PM Cigarette Paper Specifications
- Wood-Pulp Cigarette Paper

Goal Two: Product Development - Short Term

- Papers Which Control Burn Rate & Ash Flaking

Goal Three: Address Consumers Desires

- Project Lotus
- Project Ambrosia

Goal Four: Address External Requirements

- Banded Wrappers (Project Tomorrow)

PM USA - OPERATIONS - R&D

2021316127

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PRODUCT DEVELOPMENT

- **Strategic Goal #2**

  Support the growth of the Domestic and International business short term (less than two years)

- **Business Objective**

  Increase **Income, Share, Volume** through new products incorporating **BENEFITS** that consumers are willing to switch brands for or that will retain them within their current brand family.

  BENEFITS

  - Price/Value*
  - Health Perception
  - Social Acceptability

  *Added Value

2021316123

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PRODUCT DEVELOPMENT

NEW DOMESTIC PRODUCTS

AREAS OF OPPORTUNITY

- Segments In Which We Are Under-Represented
- Growing Demographic Segments
- Taking Share From Competitors
- Segments With Growth Potential

2021313429

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PRODUCT DEVELOPMENT

MARLBORO MEDIUM 100'S

- Complete brand families with extensions that will increase brands' income, share and volume.

- Objective

  Develop a 100 mm line extension of Marlboro Medium KS that delivers similar sensory response to the KS product. Positioned, sensorially, between Marlboro Lts. & Marlboro Gold Full Flavor.

  1. Taste consistent with existing KS/100 mm extensions in the Marlboro Family.

  2. Create a design to increase the sensory response of Marlboro Lights 100's.

PM USA - OPERATIONS - R&D

2021316430

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PRODUCT DEVELOPMENT

Marlboro Medium 100's

ISSUE

- What Is The Appropriate:

  Tar Delivery

  Puff Count

  Tar/Puff

To position the taste of this product between Lights 100's and Gold 100's

PM USA - OPERATIONS - R&D

2021246431

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PRODUCT DEVELOPMENT

Marlboro Medium 100's

	FF 100's	Lts 100's	Med 100's
Tar	16	11	12
Puffs	10	10	9
Tar/Puff	1.6	1.1	1.3

PM USA - OPERATIONS - R&D

2021346432

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PRODUCT DEVELOPMENT

Marlboro Medium 100's

	FF 100's	Lts 100's	Med 100's		
Tar	16	11	12	13	14
Puffs	10	10	9	9	10
Tar/Puff	1.6	1.1	1.3	1.45	1.4

PM USA - OPERATIONS - R&D

2021316233

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PRODUCT DEVELOPMENT

Marlboro Medium Design Comparison

	Medium KS SP	Medium 100 SP	Medium 100 13 mg Design	Medium 100 14 mg Design
FTC Tar	12.0	12.0	13.0	14.0
Puff Count	8.6	9.0	9.0	10.0
Tar/Puff	1.40	1.33	1.45	1.40
Nicotine	0.85	0.85	0.90	1.02
Total RTD	109	122	121	110
Filter RTD	86	94	87	90
Ventilation	20	20	16	20
Porosity	33	44	44	33

2023134631

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PRODUCT DEVELOPMENT

Marlboro Medium 100 mm Prototypes

	12 mg	13 mg	14 mg
FTC Tar	12.0	12.7	15.0
Puff Count	9.1	9.0	10.8
Tar/Puff	1.32	1.41	1.38
Nicotine	0.85	0.89	1.09
Total RTD	131	124	102
Filter RTD	97	87	90
Ventilation	19	16	22

2021316435

PM USA - OPERATIONS - R&D

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PRODUCT DEVELOPMENT

BENSON & HEDGES KING SIZE

General

- B&H KS offers the opportunity to participate in the largest product category with an existing premium trademark with minimal cannibalization of its current 100 mm packings.

B&H KS Menthol

- PM is under represented in the KS Menthol market.
  - B&H 100's Full Flavor Menthol is unusually popular among young adult black smokers; despite the fact that 100 mm length cigarettes are not.
  - Allegiance of young adult black smokers to their traditional brands -- Kool and Newport -- is suspect.
  - Black smokers are less likely to smoke a discount brand.

B&H KS Non-Menthol

- There is room for another KS Full Flavor Premium Brand with a strong heritage.
  - Switchers from Marlboro to competitive King Size Full Flavor products.
  - Young adult smokers if they decide to abandon Marlboro.

2021616425

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PRODUCT DEVELOPMENT

BENSON & HEDGES KING SIZE

- B&H King Size should be designed to appeal, sensorially and visually, to King Size smokers.
  - To the extent possible, it should appeal sensorially to smokers of competitive brands.

- Product options

	Non-Menthol		Menthol	
	F.F.	Lights	F.F.	Lights
Tar, mg	16	11	16	12
Circumference, mm	24.8	24.8	24.8	24.8
Tipping Color	Cork	Cork	Cork	Cork
Packing	83/Box	83/Box	83/Box	83/Box

2021316137

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PRODUCT DEVELOPMENT DIRECTORATE

J. MYRACLE, Director

H. SPIELBERG, Development Fellow

R. HERETICK, Director - Cigarette Technology Directorate

W. Claflin, Associate Principal

A. Confer, Manager

C. Altizer, Section Leader

(T. Callaham), Section Leader — K. Newman, J. Heaven

R. Newsome, Associate Senior

S. Baldwin, Section Leader

B. Geiszler, Senior
G. Bokelman, Associate Senior
S. Tafur, Associate Senior

J. Smith, Section Leader

R. COX, Manager - Flavor Technology Division

C. Kroustalis, Section Leader — D. Bell

V. Willis, Section Leader — B. Mait

J. Swain, Associate Senior

G. Yatrakis, Section Leader

S. NELSON, Manager - Product Evaluation Division

J. Tindall, Associate Principal

M. Johnston, Senior Scientist — Jeltema

D. Ennis, Associate Senior — JONES

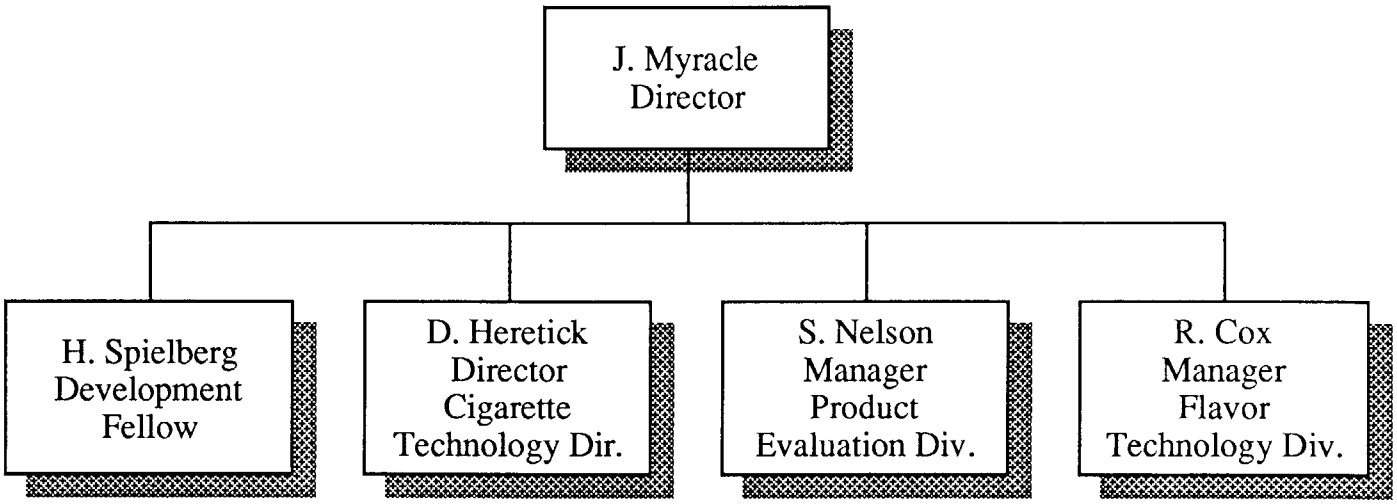
F. West, Section Leader

ACL
+PDCom
+JTM

2021318438

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

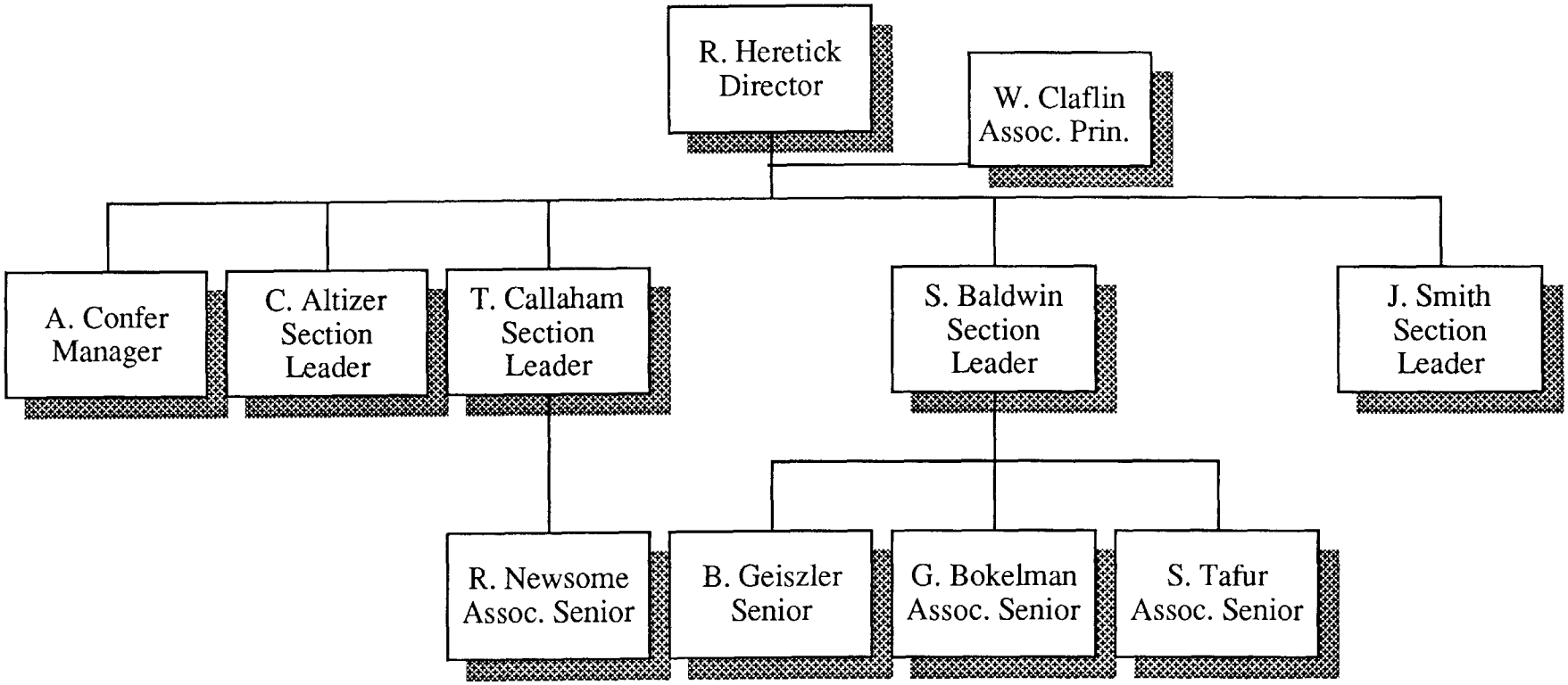
Product Development Directorate



2021316139

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

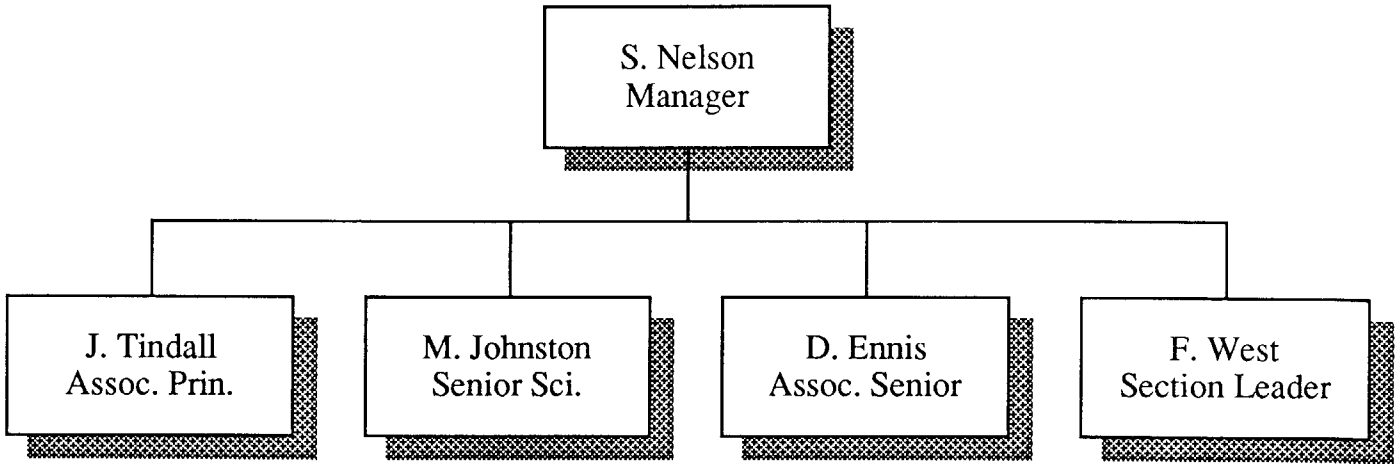
Cigarette Technology Directorate



2021316140

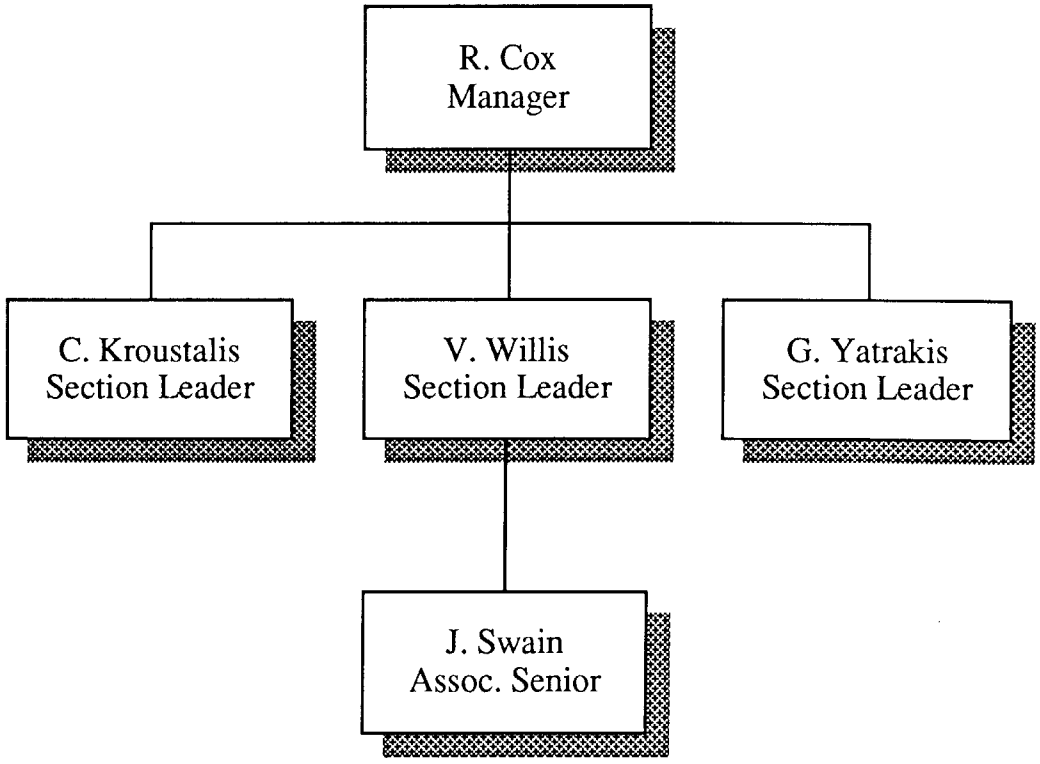
Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

Product Evaluation Division



Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

Flavor Technology Division



Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

INTERNATIONAL PRODUCT DEVELOPMENT
AFFILIATES AND LICENSEES

I. **OBJECTIVE:** Contribute to the attainment of Strategic Goal 1 by supporting the existing products of affiliates and licensees.

STRATEGIES:

1. Corporate product improvement (Latin America) - Design changes that standardize (to USA) Latin American products. Assist with consumer testing and implementation.

2. Project Omega - Optimize/standardize the blend and casing/flavor system of the Philippine Marlboro.

3. Project Amethist - Standardize the casing/flavor system of the European Marlboro.

4. USA Flavor Sourcing - Standardize in phases the casing/flavor system of the Mexican Marlboro (ensuring ingredient compliance). Source all phases from USA.

II. **OBJECTIVE:** Contribute to the attainment of Strategic Goal 2 by developing products for affiliates and licensees.

STRATEGIES:

1. Corporate Product Development (Latin America) - Develop corporate products for the Latin America Region according to PM USA guidelines.

2. Local Product Development (Latin America) - Develop local products for the Latin America Region according to Regional guidelines.

3. Project 2000 - Begin manufacturing Marlboro in the People's Republic of China in 1995 under a licensee arrangement with CNTC.

4. EEMA BBS - Support EEMA in establishing and monitoring the production of Marlboro and L&M in Hungary, Poland and Yugoslavia.

2021216443

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

EXPORT PRODUCT DEVELOPMENT

I. OBJECTIVE: Strategic Goal 1 Activities - Provide support to operations with respect to existing export products, in the areas of quality cost/productivity, capacity and environmental compliance.

A. STRATEGIES

1. Product Optimization - Changes to existing export products for the purpose of consolidation of product and material specifications, cost reduction and improvement of product performance.

    a. Export Product Standardization
    b. L&M/Chesterfield Blend/Flavor Consolidation
    c. Development of Softer Response Products for Korea

2. Filter Optimization - Changes to existing filtration mechanisms for the purpose of reduction of product variability, cost reduction, consolidation of material specifications, and productivity improvement.

    a. Carbon Consolidation
    b. Qualification of a Porous Combining Wrap
    c. Parliament Filter Redesign
    d. Support of High-Speed Combiner Development

3. Tar Delivery Reduction - Specification changes to reduce delivery of products in regions where warranted.

    a. Lark Japan Family Tar Reduction
    b. Marlboro Korea Family Reduction

4. Conversion of 80mm Long Size FTB products to 83mm King Size FTB.

    1. Marlboro LS to KS Conversion
    2. Parliament LS to KS Conversion

5. Packaging Revisions - Track changes in packaging of export products, specifically with respect to printed deliveries and the export warning notice program. Easley

2023161414

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

II. **OBJECTIVE:** Strategic Goal 2 Activities - Support growth of international business, short term, through the launch of new commercial products and through support of affiliates and licensees.

A. **STRATEGIES:**

1. Product Launches for Japan

   - Project 41
   - Blend 322
   - Marlboro 100 FTB

2. Product Launches for Asia Region

3. Product Launches for EEMA/EEC Regions

4. Support of Marlboro Licensee Production by JT.

   - Factory Location Change
   - DIET Inclusion in Marlboro

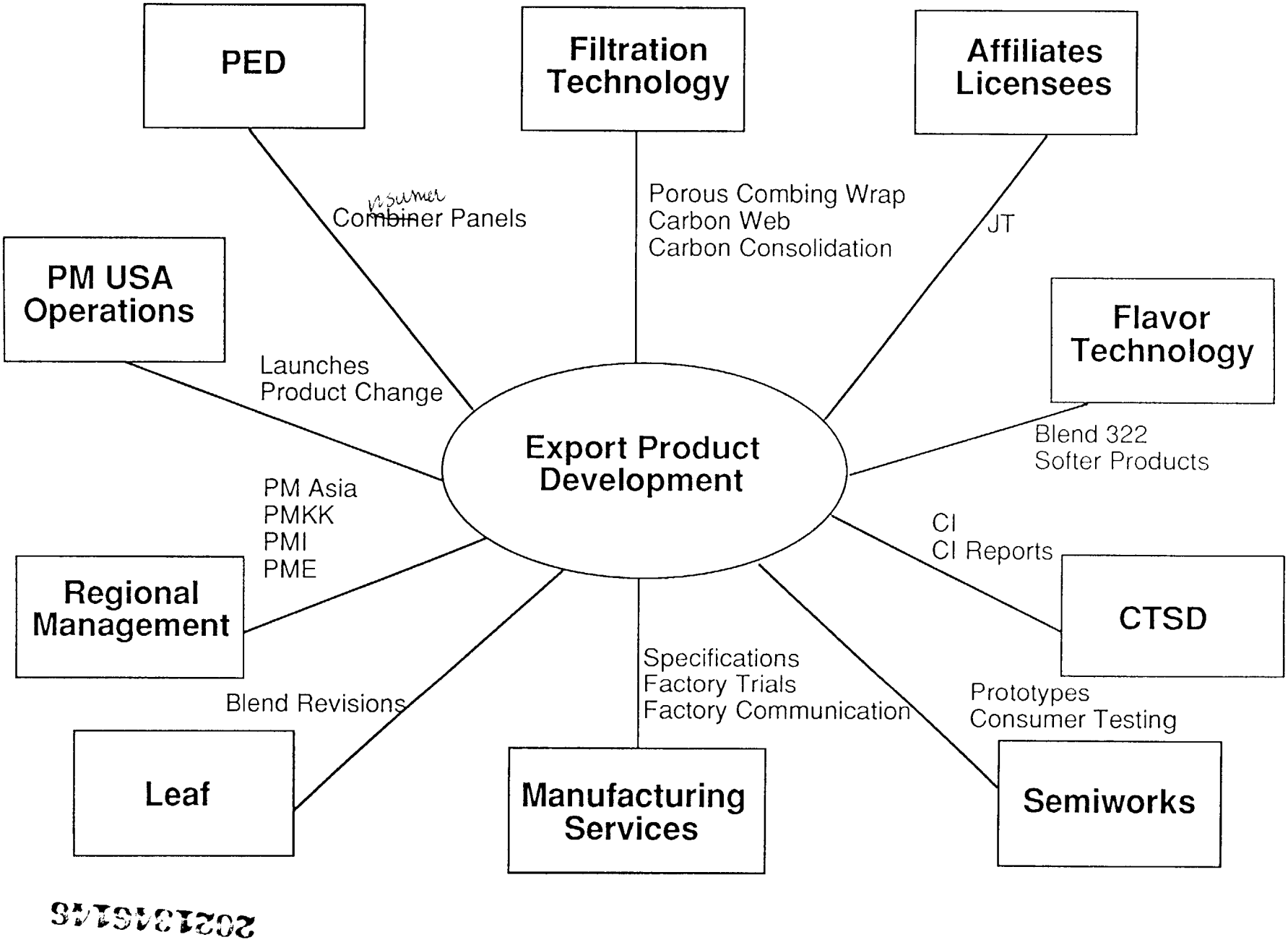
5. Pan Asian Menthol

6. Evaluation of New Technologies

   - Art
   - Ambrosia
   - Lotus

2021316115

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000



Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

Product Development

A) Premium Brands

1) Work Processes

Issues:

B&H Line Extensions

- Lights Products Redefined & N.M.T Men.
- Non-Approved Packaging Material
- Product Approval Required

Merit 3/6mg

- Defining Program

Virginia Slims Address 3/20 w/c Cohen

- 100mm V.S. Lts LSS
  - Paper Definition

- VSSS 9mg
  - "Right Move" for Business ?

- V.S. K.S.
  - Machinery
  - Product Definition

2021348147

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

Product Development

B) Marlboro

1) Work Processes
Issues

Marlboro Medium 100's

- Test Data for 13 tar/10 puffs
- Product Decision

Marlboro/Marlboro Lights Position Non-Issue

- What is Being Considered

Marlboro Wides

- Machinery to Process Product Correctly

Marlboro Blend Studies

- Two Separate Projects ET increase

2021345148

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

Product Development

D) Marketing Support Program

Issue:
Commitments to Marketing need to be addressed in Product Development first

2021316119

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

Product Development

E) Consumer Testing

Issues:

- Determine when test replications necessary
- Establishing Program (criteria)

All Testing Completed Is What We Say It Is

2021348150

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

Product Technology

1) Work Processes:
Issues:

Low Tar High Flavor
- Set Parameters

Project ART
Issues:
- Coordination of filler from extraction through cigarette making
- Murphy's Law!

Project Ambrosia
I.
- G.E.V. Specification
- Adhesive Specification

II.
- Paper Specification
- Low/Neutral Aroma Compound

2021346151

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

Product Technology

New Packaging Concepts/Added Value

- Availability/time requirements for product requested

Computer Application

- Time/Approval/Implementation

2021348452

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

3) Priorities

- Focused on Commercialization FF R, M
  B&H KS Time table for LTS R, M
  - Define by March
  - Ad Pack and Factory Trial by March/April

  MF Medium 100
  - Define by March for Factory Trial

  V.S. Lts 100's - LLS
  - Product ready by September 1

  Merit 3/6mg
  - 4th Quarter, POL testing

  V.S. KS
  - 4th Quarter, POL testing

  NET Inclusion
  - What is the Real Date?

2021346153

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

Issues with Information Flow

- Immediate attention to Project Objective Changes
  - Modifications
  - Additions
- Immediate attention to Product Requirements
- Allow Product Development most effective use of time

2021218454

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

Project Tomorrow

Project Processes

1.	Project Coordinator establishes scope of project		Dwyer
2.	R&D Product Development personnel design and input prototypes for production		
	a. Computer Modelling		Newman/Peace
3.	R&D Product Development personnel monitor Semiworks production runs		
	a. Primary Processing	Leaf Group	Moogalian
		Flavor Technology	Taylor
	b. Make/Pack	Product Development	Newman/Peace
4.	Samples submitted to CTS for analyticals		Peace/Newman
5.	Samples smoked for subjectives		
	a. Flavor Technology		
	b. Leaf Group		
	c. Richmond Panel		
6.	Analytical results reviewed		Dwyer/Newman

2021315455

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

Project Tomorrow

Priorities

1. Develop low density blends, utilizing DIET and NET tobaccos and small lamina for selected brands in order to reduce their puff counts

2. Fabricate, CTSD test, and subjectively evaluate low MBR products

3. Optimize subjectives through re-design where necessary

2021345155

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

Project Tomorrow

Intra and Interdependent Interactions

1. Blend Development
2. Cigarette Design
3. Prototype Production
4. Analytical Evaluation
5. Subjective Evaluation

2021316157

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

N.E.T.

Project Processes

1.	Project Coordinator establishes scope of project	Fischer
2.	R&D Product Development personnel design and input prototypes for production	
	a. Computer Modelling	Peace
3.	R&D Product Development personnel monitor Semiworks production runs	
	a. Primary Processing	Taylor/Moogalian
	b. Make/Pack	Peace/Moogalian
4.	Samples submitted to CTS for analyticals	Peace
5.	Samples smoked for subjectives	
	a. Flavor Technology	
	b. Leaf Group	
6.	Analytical results reviewed	

2021216459

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

N.E.T.

Priorities

1. Produce N.E.T. prototype equal to DIET

2021316159

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

N.E.T.

Responsibilities

Advisory Committee	Heretick/Myracle/ Spielberg/Riggan
N.E.T. Coordinator	Fischer/Dobbs
Product Design (Cigarette)	Peace/Rockwell
Blend Development	Moogalian
Flavor Development	Taylor
Subjective Evaluation	Group
Production	Semiworks
Analytical Testing	CTSD
Implementation	Rockwell/Peace/Moogalian

2024134460

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

N.E.T.

Intra and Interdepartmental Interactions

1. Process Development
2. Blend Development
3. Cigarette Design
4. Prototype Production
5. Analytical Evaluation
6. Subjective Evaluation

2021341161

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

STRATEGIC GOAL 2

Product Development

A. Premium Brands

Objective: Identify and develop logical line extensions and repositioning of existing products to fill unaddressed opportunities and to address changing market opportunities.

B&H Line Extensions
Merit Ultima
3mg Merit
6mg Merit
Va. Slims K.S.
Va. Slims 100's Lights 50% VSS Reduction
Va. Slims Superslims @ 9mg
Parliament Lights Menthol

B. Marlboro

Objective: To identify and develop appropriately positioned line extensions for the family of products, reposition existing products and modify products to suit business needs.

Marlboro Medium 100's
Marlboro Blend Study
Marlboro/Marlboro Lights Positioning
Marlboro Extra Lights
Marlboro Wides

C. Discount Brands

Objective: To develop discount brands that satisfy unaddressed market opportunities; to make discount brands more cost effective.

Alpine
Bucks
Slims 100
Full Flavor Menthols

2021315162

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

D. Marketing Support Program

Objective: To support Marketing and Marketing Research efforts in the areas of focus groups, ad packs and packaging concept tests. To provide cigarette prototypes, special packagings and product information necessary to access feasibility of concepts.

1. Pack Odor Blotters
2. B&H Ad Pack
3. Circumference, length variations for Marlboro Wide Program.
4. Ring tipped menthol products for focus group testing.

E. Consumer Testing

Objective: Generate a database of strength and liking scores for PM and competitors' products to identify new product opportunities and product/process improvements.

Global Monadics
Marlboro Monadics
"Special" Monadic Testing

2021345103

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

STATEGIC GOAL 3

A. **Low Tar High Flavor**

Objective: Develop new technologies which will allow, within the next two to four years "Ultra Low" tar 2-4mg cigarettes with sensorial experience of "Lights" or full flavored cigarettes.

Preliminary Meetings

B. **Project Art**

Objective: Develop subjectively acceptable products with a significant reduction in nicotine delivery from filler which through supercritical CO_2 extraction, has a reduction in nicotine content.

Half Nic
DeNic

C. **Project Ambrosia**

Objective: Develop Ambrosia I products with modified vanilla-type odor. Develop Ambrosia products with low smoke, low odor, and low smoke/low odor.

Ambrosia I
Ambrosia II

D. **Consumer Testing Internal**

Objective: To improve sensory testing guidance by developing new procedures and stream-lining existing procedures and by increasing our knowledge affecting blind sensory test results.

Evaluate Current Panels
Data Presentation
Develop New Test Methods

E. **Consumer Research (Added Value)**

Plans not approved

2021348164

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

F. New Packaging Concepts/Added Value

Objective: Provide support services to customers in the following areas: New York Marketing, Domestic and International Product Development, Filter Technology, Paper Technology, Engineering Packaging Group, Flavor Technology Packaging Group, and Semiworks. The services provided are necessary to assist in the design and fabrication of materials, components, and machinery for the timely and efficient assessment of new and novel packaging and paper designs.

ex: Circumferences
Cigarette Lengths
Filter Lengths

G. Computer Application

Objective: Design and implement an integrated modelling and database management system for product development.

Semiworks Request
Specifications
Design Model

2021316165

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

DOMESTIC PRODUCT DEVELOPMENT AND SUPPORT

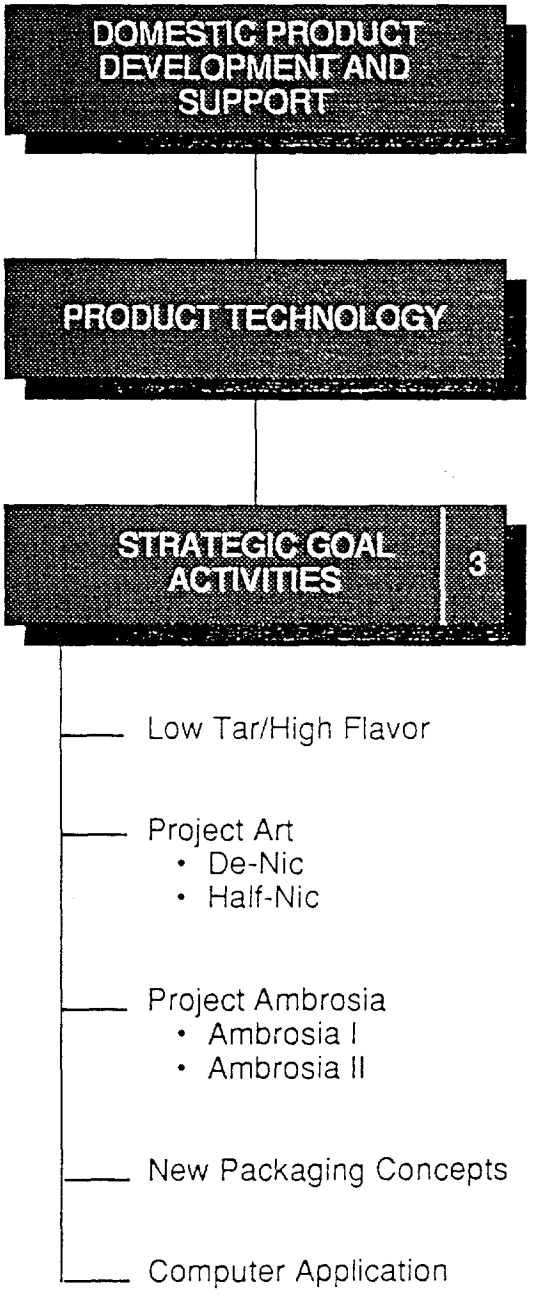
PRODUCT DEVELOPMENT

STRATEGIC GOAL ACTIVITIES | 2

- Premium Brands
  - B&H KS
  - Merit 1, 3, 6mg
  - Virginia Slims
  - Parliament KS Menthol
- Marlboro
  - Medium 100's
  - Full Flavor and Lights Blend Study
  - Extra Lights
  - Ultra Lights
  - Wides
- Discount Brands
  - Alpine
  - Bucks
  - Generic Full Flavor Menthol
  - Slims
- Marketing Support Program
  - Package Odor Study
  - Ad Packs
  - Circumference Study
- Consumer Testing
  - POLs

2021345105

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000



2021345167

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

DOMESTIC PRODUCT DEVELOPMENT

Project Name:	**B&H KS LINE EXTENSION**	
Departmental Personnel:	Warren Claflin	Technical Advisor
	Morris White	Domestic Product Development
	Howard Maxwell	Flavor Technology
	Bill Geiszler	Paper Technology
	Greg Patron	Filter Technology
	Debbie Atkinson	POL Administration, DPD
	Mable Fleming	PED
Interdepartmental Personnel:	Truman Foster	Commercial Development
	Duane Wilder	Engineering
	Mark Guy	Engineering
	Steve Walton	Production
	Bill Atkins	Production
	Sainta Haywood	Operation Services
	Terry Burgess	Operation Services
	Kevin Thompson	Operation Services

Project Name:	**MERIT ULTIMA**	
Departmental Personnel:	Warren Claflin	Technical Advisor
	Barbara Monahan	Domestic Product Development
	Charlie Altizer	Domestic Product Development
	Janet Spruill	Domestic Product Development
	Morris White	Domestic Product Development
	Jim Pflueger	Flavor Development
	Don Laslie	Filter Development
Interdepartmental Personnel:	Susan Wagner	Cabarrus, Production

Project Name:	**3mg MERIT**	
Departmental Personnel:	Warren Claflin	Technical Advisor
	Charlie Altizer	Domestic Product Development
B. Monahan	~~Morris White~~	Domestic Product Development
Crawotta Skalak	Jim Pflueger	Flavor Technology
	Bill Geiszler	Paper Technology
	Don Laslie	Filter Technology
	Armine Manwaring	PED
Interdepartmental Personnel:	Billy Riggan	Leaf
	C. Moogalian	"

2021213168

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

Project Name:	6mg MERIT	
Deparmental Personnel:	Warren Claflin	Technical Advisor
	Charlie Altizer	Domestic Product Development
Cravotta B. Monahan	~~Morris White~~	Domestic Product Development
Skalak	Jim Pflueger	Flavor Technology
	Bill Geiszler	Paper Technology
	Don Laslie	Filter Technology
	Armine Manwaring	PED
Interdepartmental Personnel:	Billy Riggan	Leaf
	C. Moogalian	"
Project Name:	VIRGINIA SLIMS KING SIZE	
Departmental Personnel:	Linda Wettle	Domestic Product Development
	Jim Pflueger	Flavor Technology
	Barbro Goodman	Paper Technology
	Arlington Finley	Filter Development
	Armine Manwaring	PED
	Page Callaham	PED
Interdepartmental Personnel:	Ray Jones	Operations Services
	Pete Talley	Engineering
Project Name:	VIRGINIA SLIMS SUPERSLIMS	
Departmental Personnel:	Linda Wettle	Domestic Product Development
	Barbro Goodman	Paper Technology
	Arlington Finley	Filter Technology
	Jim Pflueger	Flavor Development
	Armine Manwaring	PED
Interdepartmental Personnel:	Ray Jones	Operations Services
Project Name:	PARLIAMENT LIGHTS MENTHOL	
Departmental Personnel:	Warren Claflin	Technical Advisor
	Morris White	Domestic Product Development
	Tom Gannon	Flavor Technology
	Judy Ryder	Filter Technology
	Bill Geiszler	Paper Technology

2021318169

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

Interdepartmental Personnel:	Terry Burgess	Operation Services
	Jack Horne	Operation Services
	Kevin Thompson	Operation Services
	Bill Atkins	Production
	Bill Wray	Engineering
	Charlie Hansen	Engineering

Project Name: MARLBORO Medium 100's

Departmental Personnel:	Janet Spruill	Domestic Product Development
Rockwell Claflin	Morris White	Domestic Product Development
	Reggie Newsome	Filter Technology
	Marshall Garrett	Flavor Development
	Barbara Joyner	PED

Project Name: MARLBORO/MARLBORO LIGHTS

Departmental Personnel:	Janet Spruill	Domestic Product Development
Alfizer Rockwell Vinson Claflin	Marshall Garrett	Flavor Development
	Armine Manwaring	PED
Interdepartmental Personnel:	Ronnie Keatts	Leaf Department

Project Name: MARLBORO EXTRA LIGHTS

Departmental Personnel:	Warren Claflin	Technical Advisor
	Barbara Hendricks	Domestic Product Development
	Marshall Garrett	Flavor Development
	Armine Manwaring	PED
Interdepartmental Personnel:	Billy Riggan	Leaf Department
	Ray Jones	Operations Services

Project Name: MARLBORO ULTRA LIGHTS

Departmental Personnel:	Barbara Hendricks	Domestic Product Development
	Janet Spruill	Domestic Product Development
	Marshall Garrett	Flavor Development
	Armine Manwaring	PED
Interdepartmental Personnel:	Ronnie Keatts	Leaf Department
	Ernie Weston	Operations Services

2021315170

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

Project Name:	MARLBORO WIDES	
Departmental Personnel:	Debbie Newman	Domestic Product Development
	Janet Spruill	Domestic Product Development
	Warren Claflin	Domestic Product Development
	Marshall Garrett	Flavor Development
	Reggie Newsome	Filter Development
	Barbro Goodman	Paper Development
	Jan Jones	PED
Interdepartmental Personnel:	Ed Woolridge	Engineering
Project Name:	ALPINE	
Departmental Personnel:	Barbara Monahan	Domestic Product Development
	Mable Fleming	PED
Project Name:	BUCKS	
Departmental Personnel:	Buddy Peace	Cigarette Technology
	Warren Claflin	Technical Advisor
	George Yatrakis	Flavor Development
	Judy Ryder	Filter Development
	Bill Geiszler	Paper Development
	Mable Fleming	PED
Project Name:	Slims 100's	
Departmental Personnel:	Warren Claflin	Technical Advisor
	Barbara Monahan	Domestic Product Development
	Armine Manwaring	PED
Interdepartmental Personnel:	Truman Foster	Commercial Development
	Sainta Haywood	Operations Services
Project Name:	Full Flavor Menthol	
Departmental Personnel:	Warren Claflin	Technical Advisor
	Barbara Monahan	Domestic Product Development
	Mable Fleming	PED
Interdepartmental Personnel:	Truman Foster	Commercial Development

2021343471

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

Project Name:	**PROJECT AMBROSIA I**	
Departmental Personnel:	Linda Wettle	Domestic Product Development
Cravotta	Barbro Goodman	Paper Technology
	George Yatrakis	Flavor Development
	Barbara Joyner	PED
Interdepartmental Personnel:	Pete Talley	Engineering
Project Name:	**PROJECT AMBROSIA II**	
Departmental Personnel:	Linda Wettle	Domestic Product Development
	Jim Pflueger	Flavor Development
Cravotta	Barbro Goodman	Paper Technology
	Barbara Joyner	PED
	Mable Fleming	PED
	Arlington Finley	Filter Development
	Grubbs/Hamm	Chem. Research
Project Name:	**CONSUMER TESTING (POLs)**	
Departmental Personnel:	Daisy Birdsong	Semiworks
	Debbie Atkinson	Domestic Product Development (Specific)
	Flavor Technology	
	Flavor Smoking Panel	
Interdepartmental Personnel:	PED	Panel Dependent
	OP Services	As assigned
	Tech. Services	As assigned
	CI Laboratory	Group
	Richmond Smoking Panel	
	Precon	
Project Name:	**COMPUTER APPLICATIONS**	
Departmental Personnel:	Charlie Altizer	Product Development, USA
	Warren Claflin	
	Sherry Baldwin	
	Judy Smith	
	PED Coordinator	
	Semiworks Coordinator	
	CI/QA Coordinator	
	Operations Services Representative	
	Bill Dwyer	
	Bennie Good	
	Robin Lipps	
	Bob Maher	

2021345172

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

Project Team -- ART

Tom Gannon	-	Aftercut/Casing Development
	-	Filler Requestor
	-	Coordination
Barbara Hendricks	-	Cigarette Design/Requestor
Greg Patron	-	Filter Design/Requestor
Bermuda Hundred	-	Filler Extraction
D-Pilot Plant	-	Expansion
Semiworks	-	Processing and Fabrication
CTSD ~~???~~ ARD	-	Analyze

2022134473

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

DOMESTIC PRODUCT DEVELOPMENT AND SUPPORT
FLAVOR TECHNOLOGY PROGRAM

PROGRAM COORDINATORS: Cox/Kroustalis

I. INGREDIENT REDUCTION

A. PROJECT GRAIN

Objective: Reduce the use of alcohol and humectants via reformulation.

1. Strategy: Incremental reduction of alcohol in burley top casing.

2. Strategy: Reduce alcohol in aftercut in combination with burley top casing alcohol reduction.

3. Strategy: Reduce/rearrange PG in the flavor system and combine with the burley top casing and aftercut alcohol reduction.

4. Strategy: Remove all alcohol from aftercuts using the sonolator with PG rearrangements in combination with the BTC alcohol reduction.

B. HUMECTANT REDUCTION

Objective: Unify humectant levels in domestic and export RL's and RCB.

1. Strategy: Reduce humectant levels in domestic reconstituted tobaccos.

C. MARLBORO RI

Objective: Develop a Marlboro Flavor System containing fewer than 40 listed components which support the subjective character in Marlboro cigarettes.

1. Strategy: Develop new reduced ingredient flavor system and subjective evaluation of the blend modifications.

2. Strategy: Develop best flavor system with reduced humectants.

2021345171

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

D. DISCOUNT RI

Objective: Develop a flavor system which is cost effective and has acceptable flavor characteristics on newly developed, cost effective blend and cigarette design.

E. REVISIONS

Objectives: To eliminate unwanted ingredients from the PM direct materials in compliance with legal requirements. To reduce ingredients and simplify sources of materials.

1. **Strategy:** Subjectively evaluate revised flavors and first shipment samples from vendors and determine acceptability.

2. **Strategy:** Identify alternate vendors for current direct materials and subjectively evaluate submissions.

3. **Strategy:** Reduce the number of sole source ingredients and remove unwanted flavor components.

4. **Strategy:** Assist the Flavor Center with subjective evaluations on flavor quality related issues.

II. LICORICE

A. LIQUID LICORICE

Objective: Implement the use of a liquid licorice to replace the existing block licorice in PM formulae which meets Philip Morris requirements of cost effectiveness and product consistency (specifications). The liquid licorice must be subjectively equal to the existing block licorice in PM finished products.

1. **Strategy:** Develop an analytical and subjective database.

2. **Strategy:** Implement cost analysis for all domestic production locations and research the pricing of the product by the vendor.

3. **Strategy:** Implement arrangements for consumer testing.

4. **Strategy:** Determine the feasibility of consolidating spray-dried licorice in export blended strip operations and export dry flavors.

2021341175

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

B. LICORICE REPLACEMENT

Objective: Investigate the development of a non-licorice based licorice substitute for use in all existing and new brands.

III. FLAVOR SYSTEM MODIFICATIONS

A. UNCOOKED FLAVOR SYSTEM

Objective: Replace the cooked flavor system for RLTC in anticipation of regulatory changes.

B. BURLEY SPRAY SPECIFICATIONS

Objective: Develop Burley Spray specifications for factory primaries.

IV. MENTHOL

A. STABLE MENTHOL

Objective: Develop new menthol technology to produce consistent menthol delivery in smoke under normal field conditions.

1. **Strategy:** Evaluate the feasibility of menthol release compounds.
2. **Strategy:** Investigate the feasibility of menthol microencapsulation.
3. **Strategy:** Investigate the feasibility of menthol encapsulation by calcium alginate.
4. **Strategy:** Investigate menthol-in-dope (MID) for delivery stability. killed

B. PROJECT LEVO

Objective: Develop a menthol product to decrease PM's dependence on natural menthol through the use of synthetic menthol.

2024345175

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

V. MISCELLANEOUS

A. ALTERNATE HUMECTANTS

Objective: Produce RL's and RCB with alternate humectants for defensive purposes.

1. **Strategy:** Develop and evaluate alternate humectants replacing propylene glycol and glycerin in PM brands.

B. SYNTHETIC/NATURAL GLYCERIN AND TRIACETIN

Objectives: Establish acceptance specification for natural glycerin based on subjective and analytical criteria. Qualify natural glycerin-based triacetin as filter plasticizer.

1. **Strategy:** Identify trace impurities in natural glycerin and perform subjective evaluations to determine threshold levels of impurities.

2. **Strategy:** Analytically and subjectively evaluate natural glycerin-based triacetin for qualification as a filter plasticizer.

2021348177

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

Domestic Product Development & Support
Existing Product Support

PROCESSING PLANT SUPPORT

PARK 500

OBJECTIVES: Provide Flavor Technology support to Park 500 for flavor systems and process modifications to address capacity, economic, environmental and overall quality issues.

To subjectively evaluate materials from the Flavor Center which ~~show found to~~ show borderline analytical results.

To qualify potential alternate sources of RL to address capacity issues.

1. Project Work Processes:

Process Plant (Dry)	Leaf Department (Feedstock)
Flavor Center	Operational Services
Process Development (Process improvements and physicals)	

2. a. Intradepartmental Interactions

Process Development	Cigarette Technology
Semiworks	CTSD
ARD	PED

b. Interdepartmental Interactions

Leaf Department	Flavor Center
Processing Plant (Park 500)	Environmental
Engineering	

3. Priorities: Production Problems, Flavor Issues

4. Responsible: Swain, Taylor - Flavor Technology, Process Development,

5. Issues: Scheduling, {Turn around time, (analytical, cigarette making)}
Hold on production materials

Domestic vs International - Specifications
Humectants/Feedstocks

2021315178

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PROCESSING PLANT SUPPORT

BL PLANT

OBJECTIVES: To increase capacity by increasing line speed at the BL Plant.

To increase the utilization level of mentholated tobacco dust in RCB.

To evaluate unwashed burley stems replacing washed burley stems in RCB to address environmental effluent issues.

To support cooked flavor production and scale-up the reactor at the Flavor Center. To qualify alternate sources for high fructose corn syrup and asparagine.

1. Project Work Processes:

Processing Plant	Leaf Department
Process Development	Flavor Center
Operational Services	

2. a. Intradepartmental Interactions

Process Development	Cigarette Technology
Semiworks	CTRD
ARD	PED

b. Interdepartmental Interactions

Leaf Department	Processing Plant (Park 500)
Process	Flavor Center
Environmental	Engineering

3. Priorities: Keep Production going

Production Problems Flavor Issues

4. Responsible: Swain, Hoskin - Flavor Technology, Process Development,

5. Issues:

- Scheduling
  - Domestic vs International
    - Specifications
      - Humectants
      - Feedstocks
- Turn around time
  - analytical
  - Cigarette Production
  - Hold on production materials

2021345179

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

ET/NET

OBJECTIVES: To substitute and evaluate NET materials in existing brands.

1. **Project Work Processes:**

   Factories — Leaf Department (Feedstock)
   Cigarette Technology — Operational Services
   Process Development (Process improvements and physicals)

2. **a. Intradepartmental Interactions**

Process Development	Cigarette Technology	Semiworks
CTRD	ARD	PED

   b. Interdepartmental Interactions Leaf Department

3. **Priorities:** Production Problems, Capacity Issues

4. **Responsible:** Swain, Taylor - Flavor Technology, Process Development,

5. **Issues:** Scheduling - Turn around time (analytical, cigarette production, Hold on production materials

   Domestic vs International - Specifications (Humectants, Feedstocks)

2021345180

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

SUBJECTIVE SUPPORT

OBJECTIVES: To provide subjective evaluations (rod and smoking characteristics) of prototypes, modifications of existing brands, new brands and monitoring of competitors' products.

To provide training, maintenance and support to auxiliary panels (e.g., Richmond, Semi-Works, Filter, Paper and Cast Leaf.)

To provide subjective evaluations (rod and smoke characteristics) of development prototypes, modifications of existing brands and monitoring of export (PM and competitors) brands.

1. Project Work Processes:

a. Factories - problems -

contaminated materials (packaging)
processing variations
- incorrect flavor systems and casing applications
- incorrect blend formulations
- incorrect packaging materials

New brand start up

b. R&D

POL's
Subjective Characterization (Competitors) d-TSD & Prod Dev,
Developmental prototypes
- Triacetin, Filters, Papers
- Cast Leaf, Flavor Modification
- Menthol, Solvent/Humectants

Aging Studies
Warehouse Studies

c. International

New brand start up
Subjective Characterization (Competitors)
Developmental prototypes
External Testing - Danchi/SPC/PMI/etc.
Distribution Systems Studies
Export Standardization
Volatiles Studies
Aging Studies

2021315191

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

2. a. **Intradepartmental Interactions**

Program Coordinators	CTSD
Cigarette Technology	Semiworks
Process Development	

b. **Interdepartmental Interactions**

Operational Services
Factory
Quality Engineering
Technical Services
Packaging Engineering

3. **Priorities:** - Factory Issues

Developmental Prototypes	POL's
Scheduled Studies	
Characterization	

4. **Responsible:** Karen Deane, Domestic Panel, International Panel, Solvent Panel, Cast Leaf Panel

5. **Issues:**

Scheduling
PANELISTS
Duplication of submissions
OBJECTIVES
Correct description of prototypes, analytical, testing requirement

MARLBORO STANDARDIZATION.

OBJECTIVES: Identify and reduce sources of variations in PM brands between production and processing facilities.

Provide training, maintenance and support to factory panels which could possibly identify and reduce sources of taste/odor/stale customer complaints.

Subjectively test externally (POL testing) Marlboro product from different production locations.

2021345182

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

1. **Project Work Processes:** - Technical Services

2. a. **Intradepartmental Interactions**

CTSD	ARD
Cigarette Technology	Semiworks
Flavor Technology (Analytical)	

b. **Interdepartmental Interactions**

Factories	Flavor Center
Direct Materials	Operational Services
Technical Services	

3. **Priorities:** - Top

4. **Responsible:** Karen Deane, Kai Lam, PED, J. Hutchinson, Technical Services, MF Standardization Panel

5. **Issues:** Limited Time and Resources

Development Good Manufacturing practices and specifications for make-pack.
Number of Panelists
Incentives

Factory Panels
- Management Support
- Facility
- Budgets
- Priorities
- Training
- Motivation
- Panelists

CIGARETTE STORAGE/TRANSPORTATION/SHIPPING STUDY

OBJECTIVES: Define the impact of cycling temperature and humidity typically seen within shipping containers and the effects of heating and cooling cycles on product discoloration, staining, subjectives, and analyticals.

Determine the impact of adverse environmental conditions upon the subjective character and analytical specifications of finished products. Compare the results of this study with similar studies conducted using products with carbon filters.

2021345193

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

Determine the subjective and analytical changes in products with carbon in filters which occur under various conditions with age.

1. **Project Work Processes:**

   Flavor projects (Flavor and stability issues)
   Cigarette Technology (International)
   Quality Eng.
   QA

2. **a. Intradepartmental Interactions**

   Cigarette Technology
   Flavor Technology (analytical and panels)
   ARD
   CTSD

   b. Interdepartmental Interactions

   QA QE

3. **Priorities:** Different for each Department

4. **Responsible:** Willis, Garrett, and Hale - Flavor Technology, Cigarette Technology

5. **Issues: HOW DOES IT SMOKE**

   Lack of clear objectives
   OV's, Spotting, Staining, vs SUBJECTIVES

2021346101

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

ROUTING SLIP

TO: Jim Myracle

RECEIVED
MAY 6 1992
J. I. MYRACLE

FROM: R.P. Hentick

DATE: 5/5/92

FOR YOUR

✓	INFORMATION
	APPROVAL
	ACTION
	COMMENTS

PLEASE

	FORWARD
	RETURN
	SEE ME
	FOLLOW UP

AMPAD Clingers™ 34-351 50 Sht. Pad

Long Term Strategic Goals:

- Reverse the Industry practice of offsetting volume declines with accelerated premium pricing
- Improve the profitability of discount brands
- Maximize the competitive advantage provided by our premium trademarks

2021346185

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

ROUTING SLIP

TO: Jim Myracle

RECEIVED
MAY 6 1992
J. I. MYRACLE

FROM: R.P. Heretick

DATE: 5/5/92

FOR YOUR	
✓	INFORMATION
	APPROVAL
	ACTION
	COMMENTS

PLEASE	
	FORWARD
	RETURN
	SEE ME
	FOLLOW UP

AMPAD Clingers™ 34-351 50 Sht. Pad

2021345186

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

BUSINESS OBJECTIVES

Long Term Strategic Goals:

- Reverse the Industry practice of offsetting volume declines with accelerated premium pricing
- Improve the profitability of discount brands
- Maximize the competitive advantage provided by our premium trademarks

2021346187

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

BUSINESS OBJECTIVES

1) **Grow income and cash flow**

	$ Billions							
	Actual 1990	Actual 1991	1992	1993	1994	1995	1996	CAG% 91-96
Operating Income	4.2	4.8	5.4	5.9	6.6	7.4	8.3	11.7
After Tax Cash Flow	2.6	2.6	2.8	3.4	4.0	4.5	5.1	14.3

2) **Achieve aggressive share targets**

	1991	1996	Change
Total PM-USA Share	43.3%	49.7%	+ 6.4%
Total PM-USA Share of Premium Category	47.9	59.0	+11.1
Total Marlboro Brand Share	25.8	28.9	+ 3.1
Total PM-USA Share of Discount Category	29.5	33.1	+ 3.6

3) **Maintain unit volume**

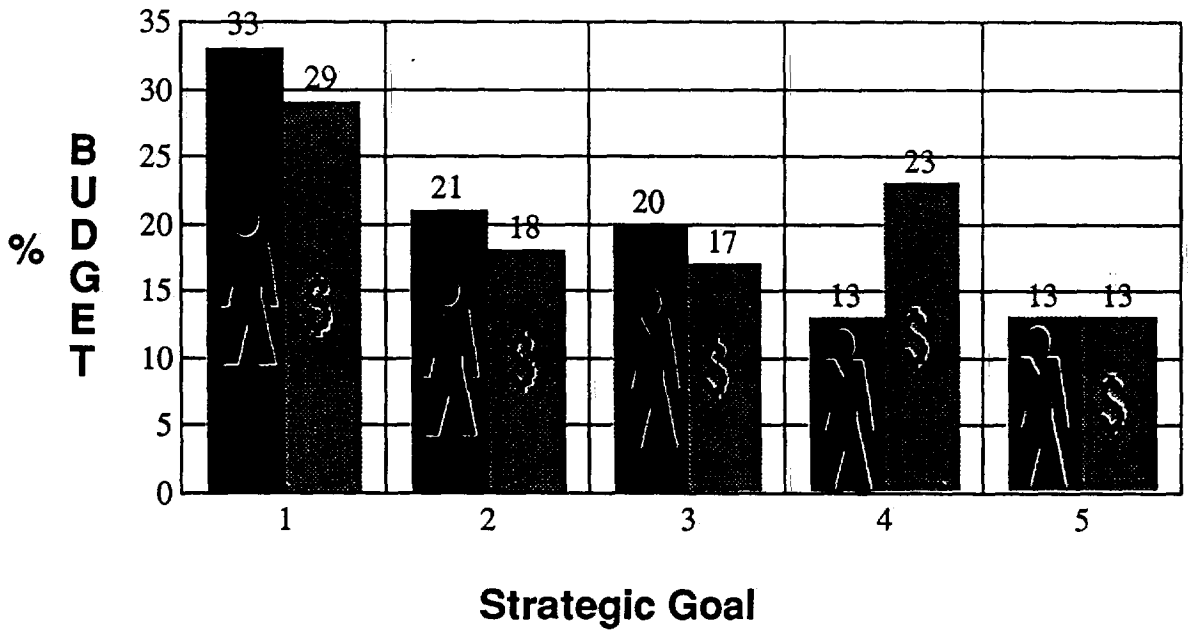
	Units in Billions							
	Actual 1990	Actual 1991	1992	1993	1994	1995	1996	CAG% 91-96
Industry	521.8	509.2	495.3	478.5	466.5	454.8	443.5	(2.7)
PM-USA	220.5	220.7	222.0	220.4	220.2	220.3	220.4	0
PM-Export	106.6	106.5	(~103)	117.5	126.9	129.7	132.5	

CAG = compound annual growth

2021346188

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

R&D RESOURCES



2021346189

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PM USA OPERATIONS

- Increase Production Flexibility To Support Brand Proliferation
- Keep Manufacturing Cost Increases Below Inflation
- Utilize Global Leaf Markets To Ensure Adequate Supply
- Become Low Cost Producer/Price Segment
- Provide Consumer Benefits To Support Price Premiums
- Institute New Management Culture To Meet Challenges Of Changing Marketplace

2021346190

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PRODUCT DEVELOPMENT

Review of Goals and Plans
March 19, 1992

- Business Objectives → What drives us
- R&D Strategic Goals → R&D's role
- R&D Major Programs → How R&D focuses effort
- Major Programs in the Product Development Directorate → Our responsibilities
- Operational Plans → What we are doing to accomplish goals

2021346191

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

STRATEGIC GOAL NUMBER 1

Support Operations' five year objectives in the areas of quality, cost/productivity, capacity, and environmental compliance.

- Operations plan driven
- R&D provides technical expertise and resources

Product Development Contributing Programs

Domestic Product Development and Support
- Existing Product Support
- Flavor Technology
- Consumer Research Technology

International Product Development and Support
- Export Product Development
- Affiliates/Licensees

Paper Technology

Filtration Technology

2021346192

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

STRATEGIC GOAL NUMBER 2

Support the growth of the domestic and international businesses short term, and provide required support to affiliates and licensees.

- Business plan driven
- New commercial products
- Typically short term -- less than two years
- Projects involve:
  - Marketing
  - Sales
  - Engineering
  - Manufacturing Services
  - QA
  - Leaf
  - Manufacturing

Product Development Contributing Programs

Domestic Product Development and Support
- Product Development

International Product Development and Support
- Export Product Development
- Affiliates/Licensees

Consumer Research Technology
Paper Technology
Filter Technology

2021346133

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

STRATEGIC GOAL NUMBER 3

Address consumer's desires

- R&D plan driven
- Added value to our products
- Intermediate length projects -- 1 to 3 years
- "Tool Box" programs -- new technologies

Product Development Contributing Programs

Domestic Product Development and Support

Product Technology

Consumer Research Technology

Paper Technology

Filtration Technology

2021345194

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

STRATEGIC GOAL NUMBER 4

Address external requirements

- Projects generally defensive
- Intermediate length -- 1 to 3 years
- Often require new technology

Product Development Contributing Programs

Domestic Product Development and Support

Flavor Technology

Consumer Research Technology

Paper Technology

Filter Technology

2021346195

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

STRATEGIC GOAL NUMBER 5

Develop technologies applicable to future products and processes

- Work initiated in Research
- Long term projects -- about five years
- Development of sophisticated new technologies

Product Development Contributing Programs

Consumer Research Technology

Paper Technology

Filtration Technology

2021346196

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PLANNING SCHEDULE

March 2	Quarterly Report to Central Files
March 23-24	PLANNING CONFERENCE
mid-April	• **Re-organize Operational Plans According to Outlines**
end-April	• **Ensure Projects are Under the Correct Program and Eliminate Duplication** • **Ensure All Work is Accounted For** • **Obtain Missing Information**
May	• **Develop New Form for Plans** • **Establish Index System** • **Identify Process for Updating Plans** • **Create Summaries for Resource Allocations by Major Program and Strategic Goal** • **Establish a Checklist System for Assessing Progress**
June 1	Quarterly Report to Central Files
June 22-23	PLANNING CONFERENCE
August 31	Quarterly Report to Central Files
September 21-22	PLANNING CONFERENCE
November	• **Prepare 1993 Operational Plans (in new format)**
November 23 (?)	Quarterly Report (Annual Accomplishments) to Central Files
December 16-17	PLANNING CONFERENCE

2021346197

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

OPERATIONAL PLANNING COMMITTEE
(NEW PRODUCTS)

Tom Cravotta
James Gear
Roger Slagle
Sue Tafur

Mission: To create a dynamic product for the New Products Directorate to lead, guide, evaluate, reward, and identify future business opportunities.

GOALS

1) To make some sense out of the operational plans
   - establish a basis for organization
   - identify missing elements/duplication
   - evaluate program content

2) To provide a "user-friendly" compilation of plans
   - establish some degree of uniformity
   - develop a system for indexing and cross-referencing
   - identify how much detail is really needed

3) To provide a tool to help management perform more efficiently
   - establish a mechanism for assessing progress
   - facilitate quarterly reports and plan updates
   - provide access to resource allocations

2021346198

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PRODUCT DEVELOPMENT

Major Programs

- DOMESTIC PRODUCT DEVELOPMENT AND SUPPORT
  - Existing Product Support
  - Product Development
  - Product Technology
  - Flavor Technology
  - Consumer Research Technology
- INTERNATIONAL PRODUCT DEVELOPMENT AND SUPPORT
  - Export Products
  - Affiliaties/ Licensees
- PAPER TECHNOLOGY
- FILTRATION TECHNOLOGY
- Support for Other Programs
  - Project Tomorrow
  - New Expanded Tobacco
  - Cast Leaf
  - New Primary Process
  - Sensory Technology

2021346199

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

DOMESTIC PRODUCT DEVELOPMENT AND SUPPORT

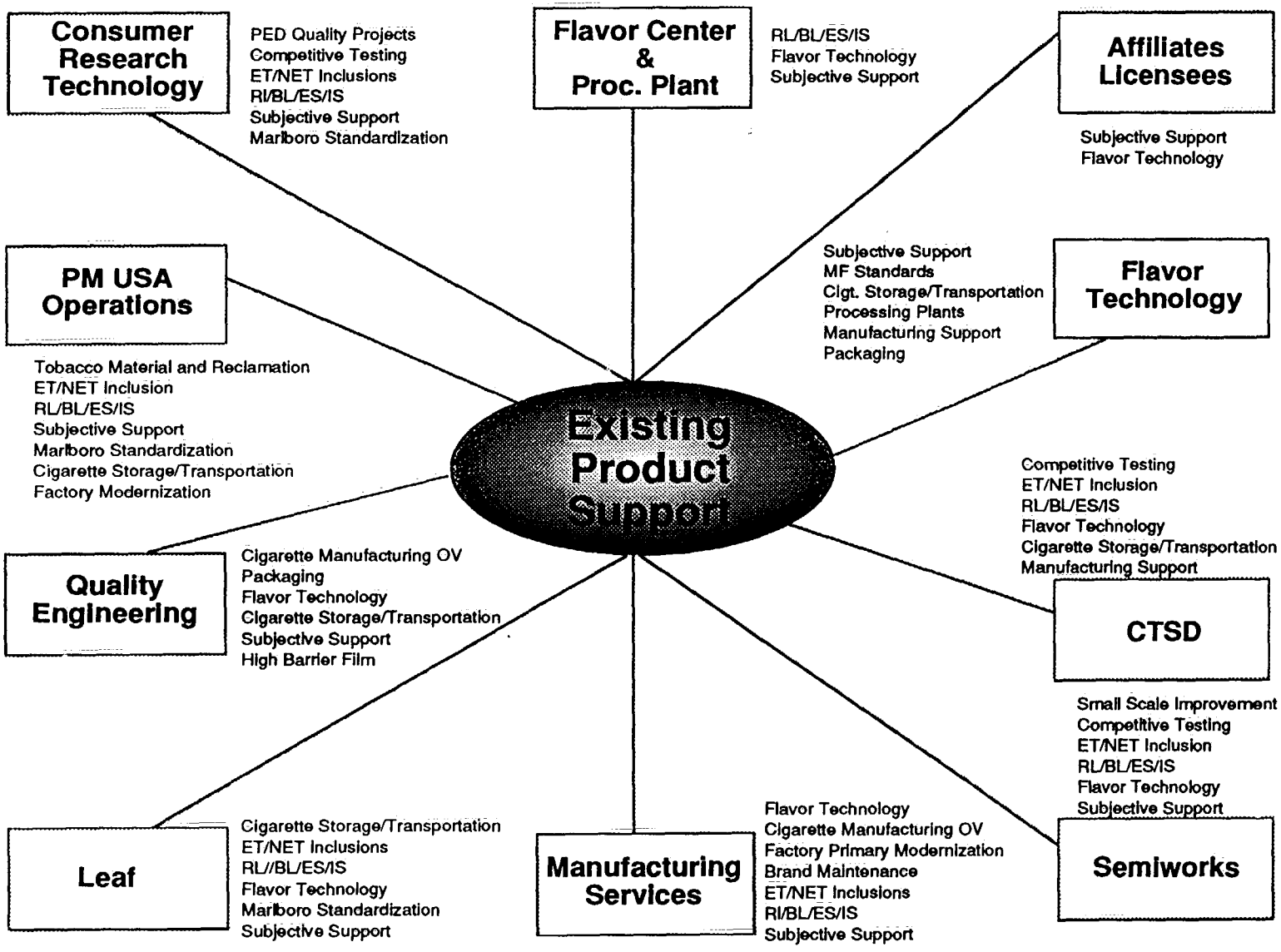
EXISTING PRODUCT SUPPORT

STRATEGIC GOAL ACTIVITIES 1

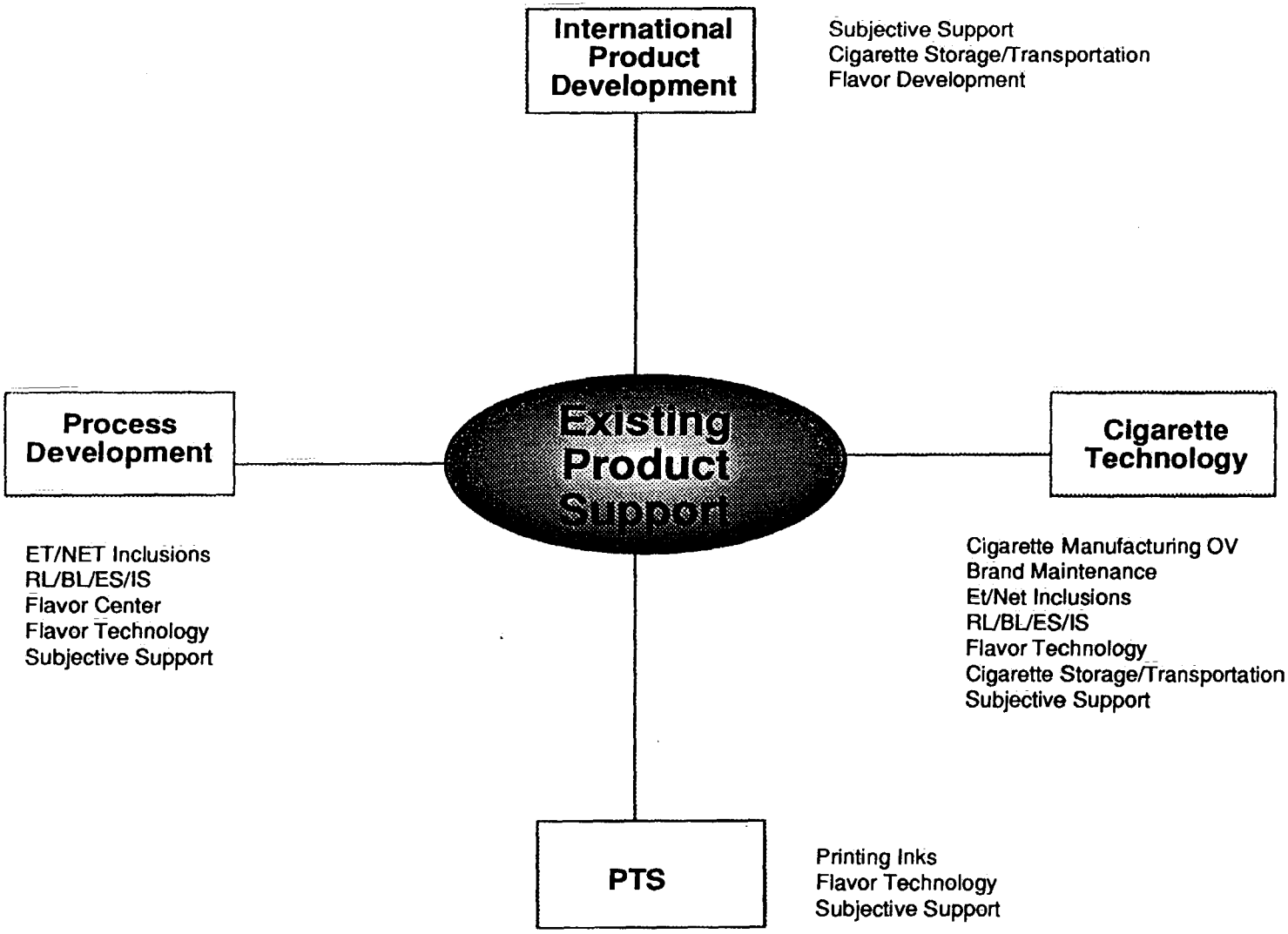
- Packaging Support
  - High Barrier films
  - Printing Inks
- Manufacturing Support
  - PED Quality Projects
  - Cigarette Manufacturing OV
  - Factory Primary Modernization
  - Small Scale Process Improvement
  - Tobacco Materials and Reclamation
  - Brand Maintenance
  - Competitive Testing
- Processing Plant Support
  - ET/NET Inclusion
  - RL/BL/ES/IS
- Subjective Support
  - Subjective Panels
  - Marlboro Standardization
  - Cigarette Storage/Transportation

2021345200

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000



Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000



Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

DOMESTIC PRODUCT DEVELOPMENT AND SUPPORT

PRODUCT DEVELOPMENT

STRATEGIC GOAL ACTIVITIES | 2

Premium Brands
- B&H KS
- Merit 1, 3, 6mg
- Virginia Slims
- Parliament KS Menthol

Marlboro
- Medium 100's
- Full Flavor and Lights Blend Study
- Extra Lights
- Ultra Lights
- Wides

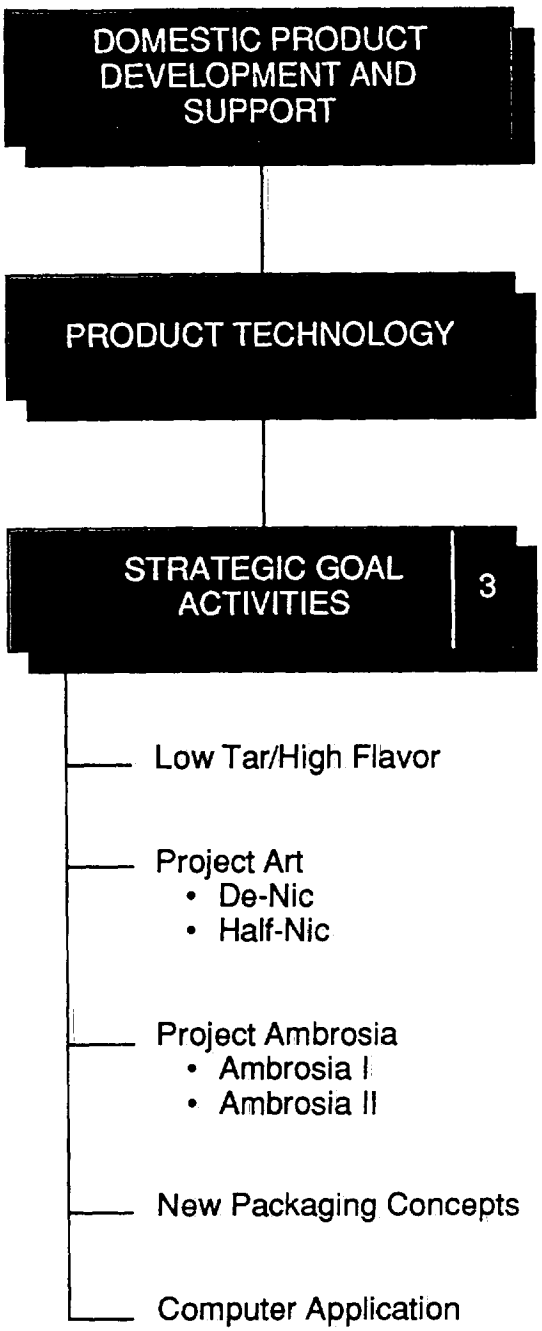
Discount Brands
- Alpine
- Bucks
- Generic Full Flavor Menthol
- Slims

Marketing Support Program
- Package Odor Study
- Ad Packs
- Circumference Study

Consumer Testing
- POLs

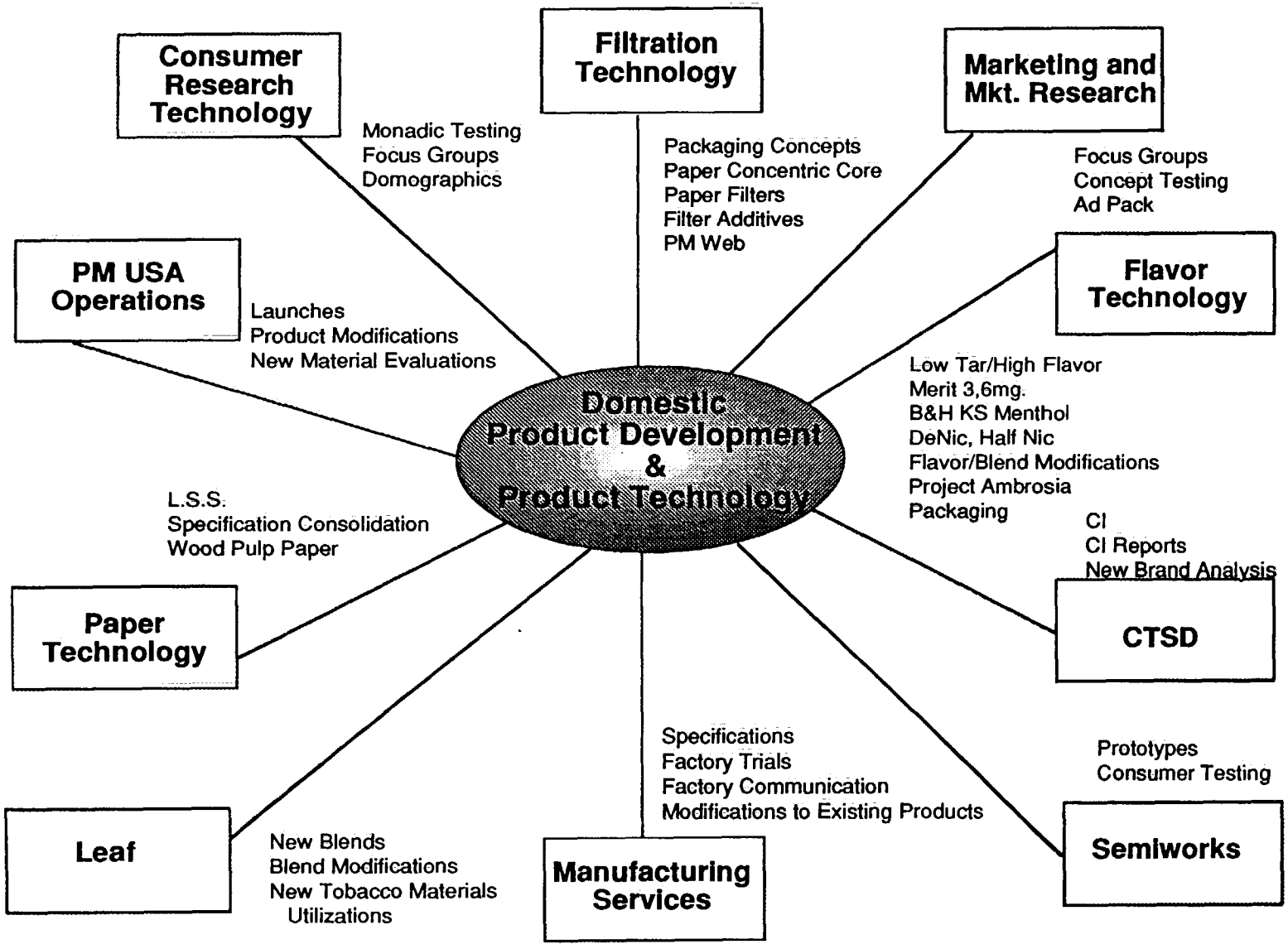
2021346203

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

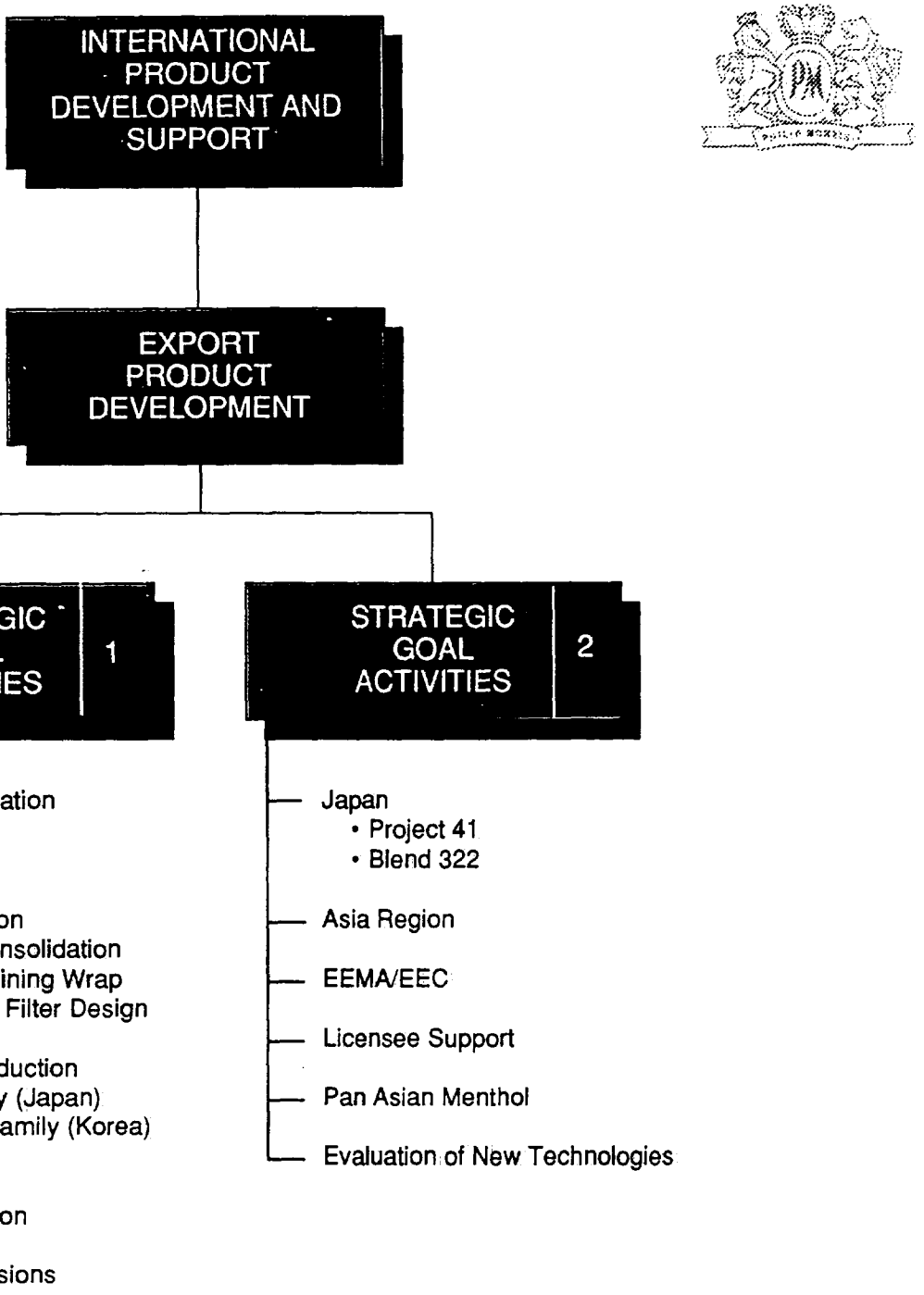


2021346204

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

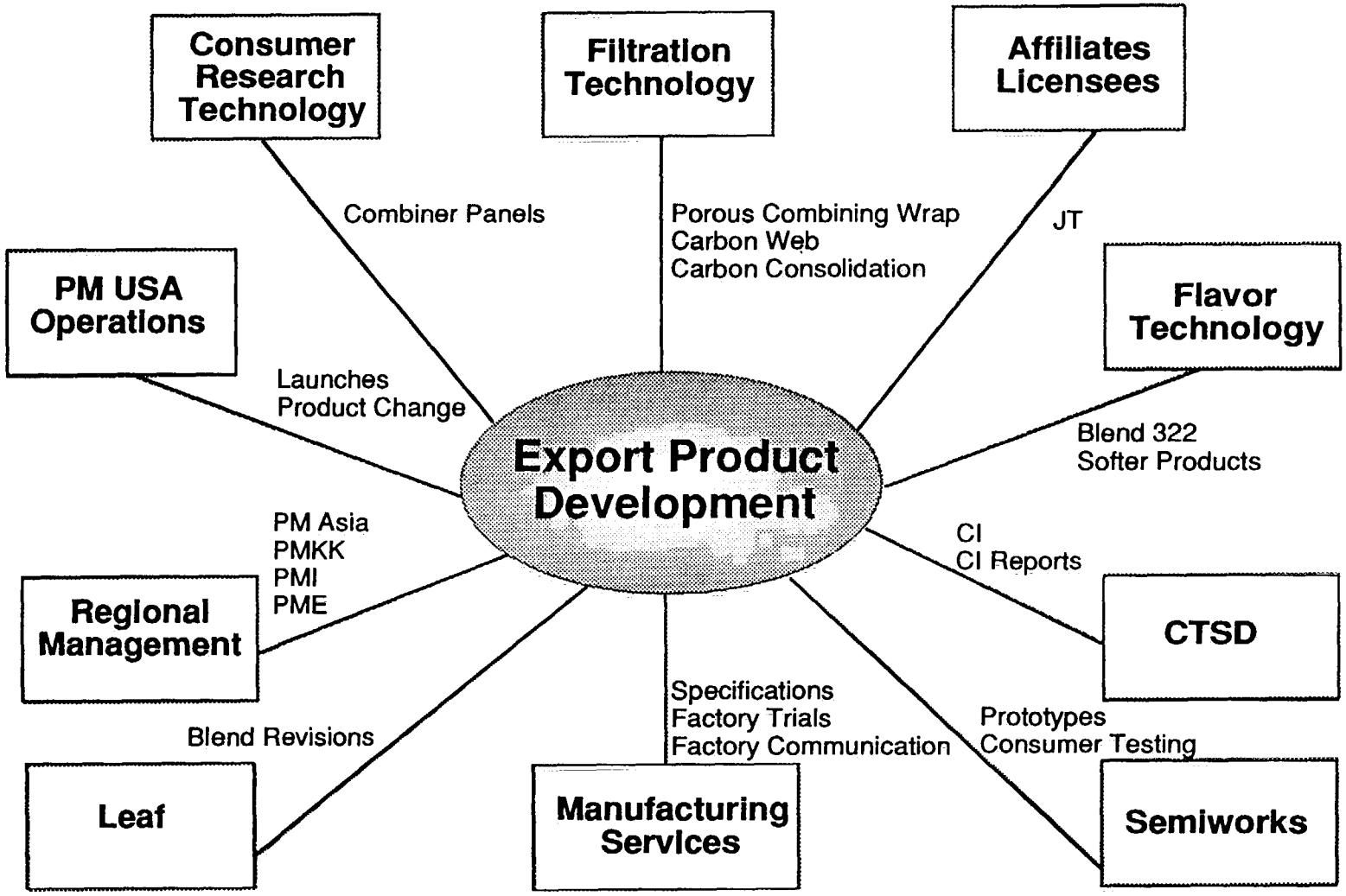


Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000



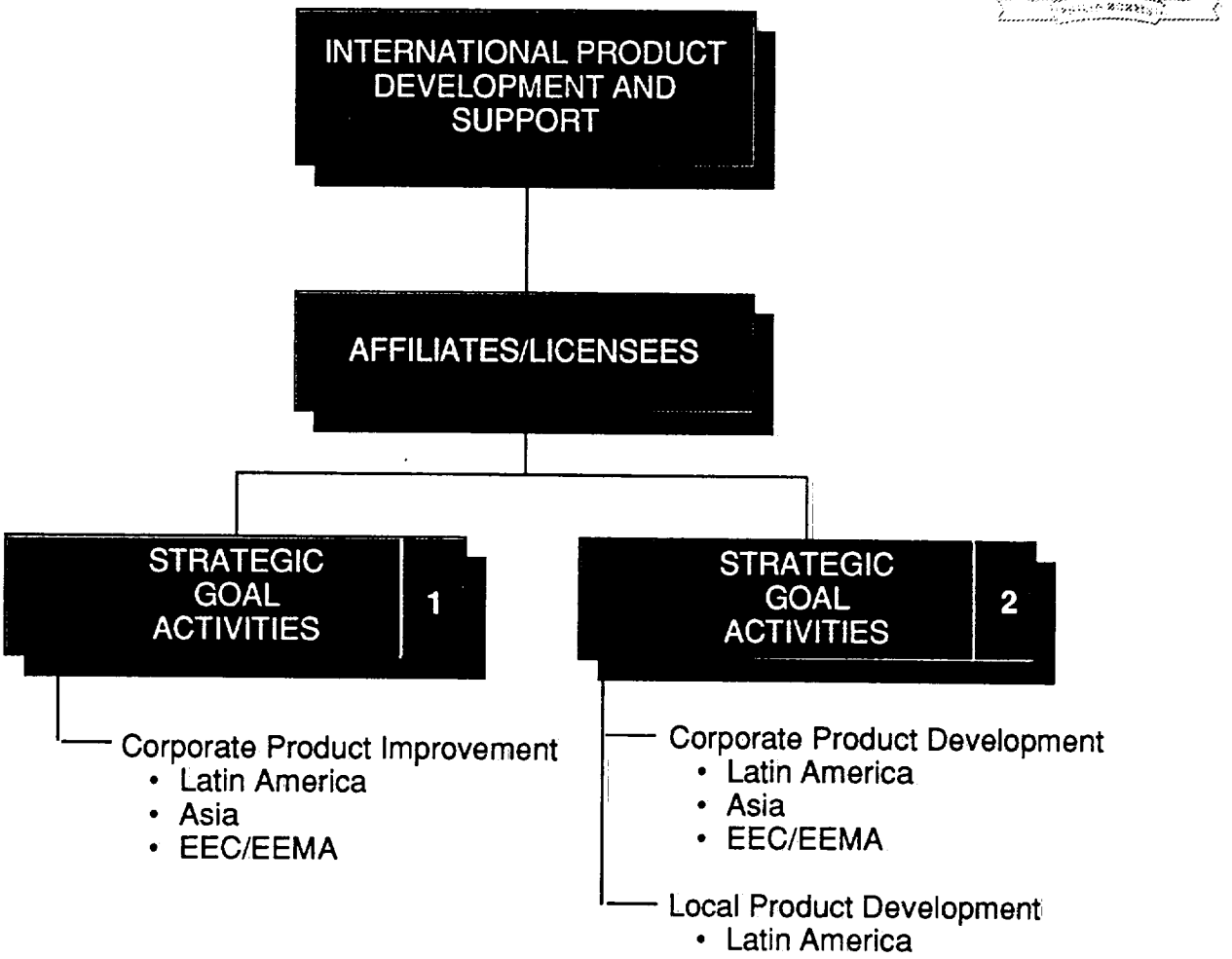
2021346206

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000



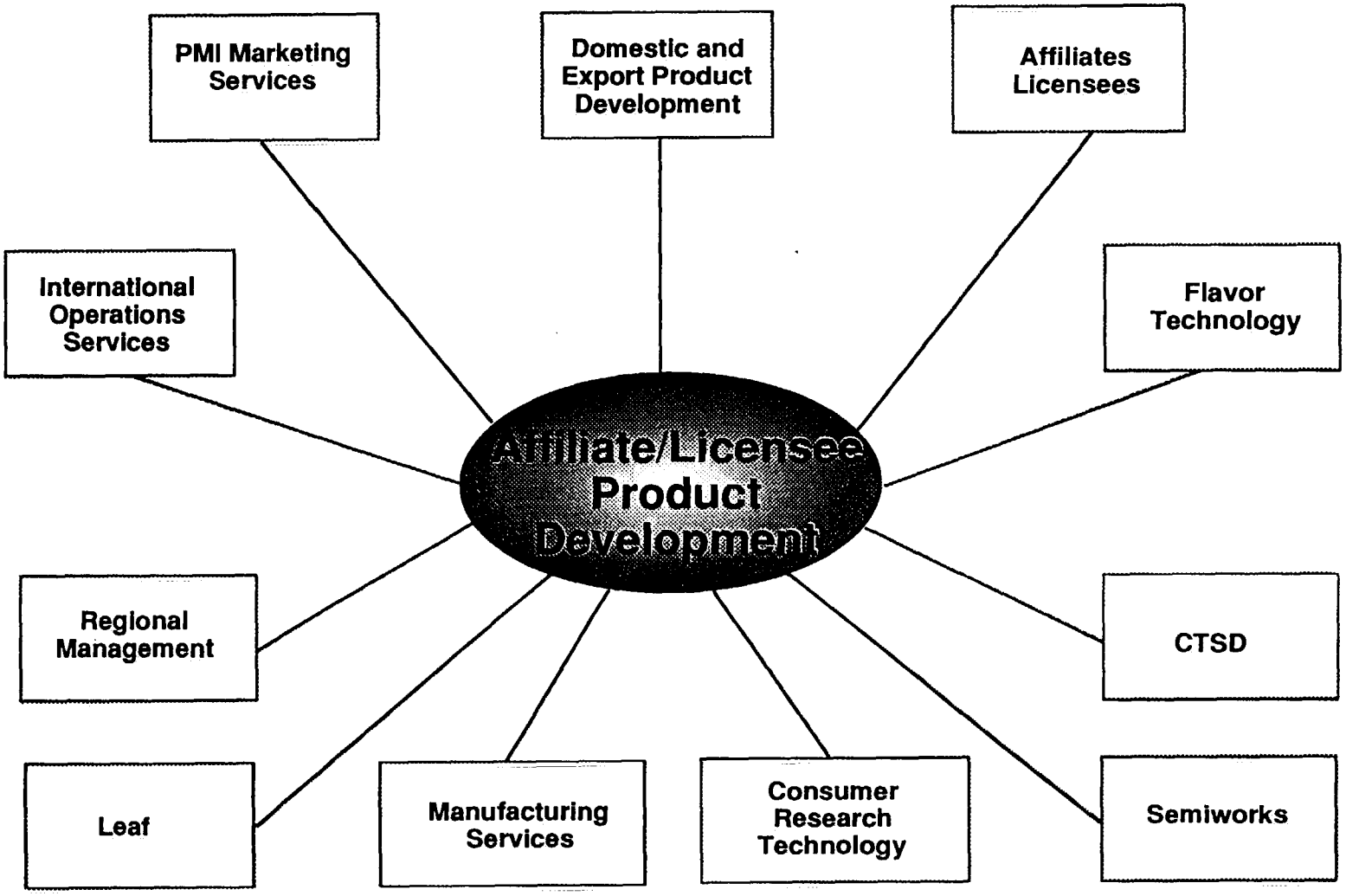
2021346207

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000



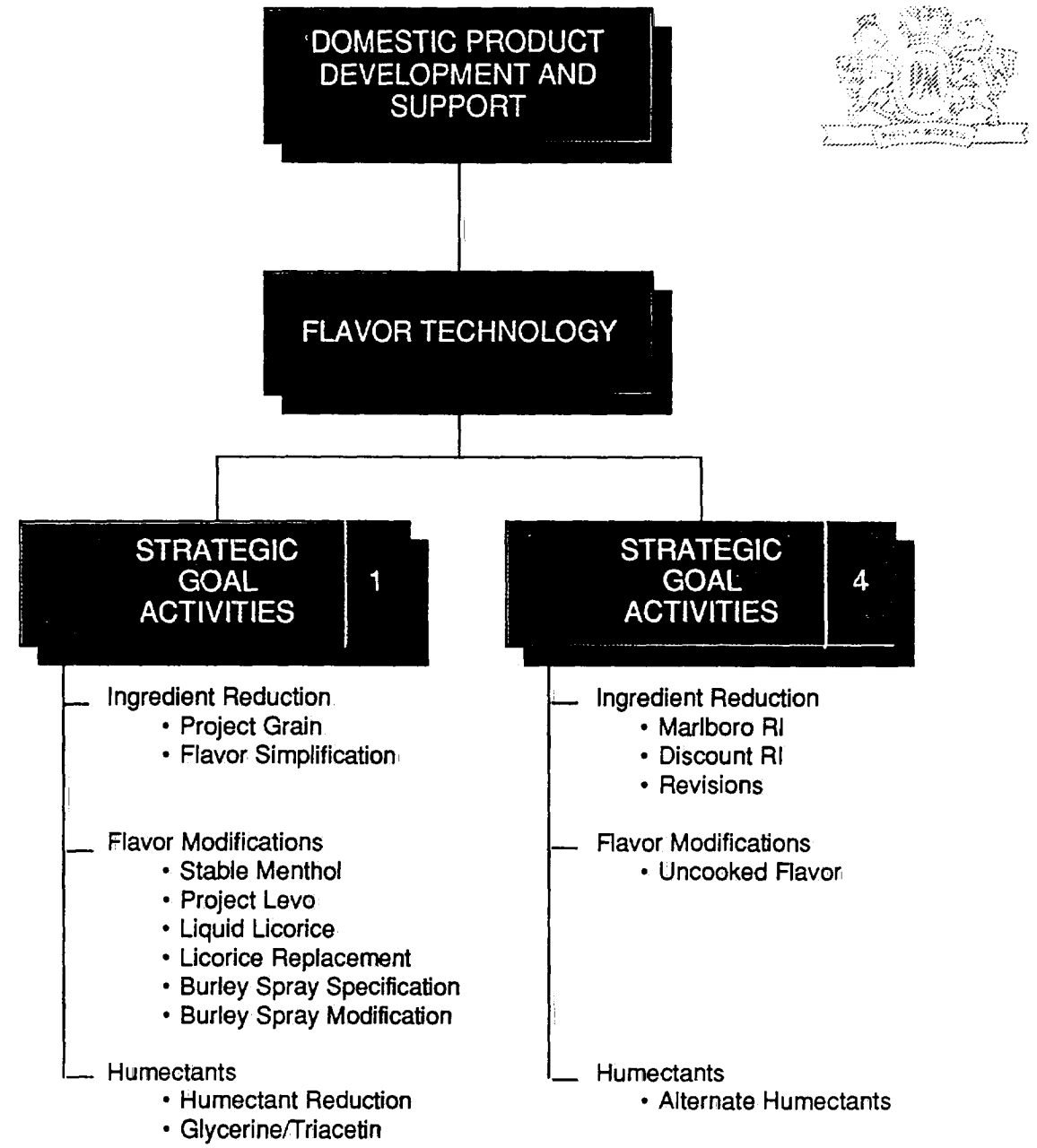
2021346208

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000



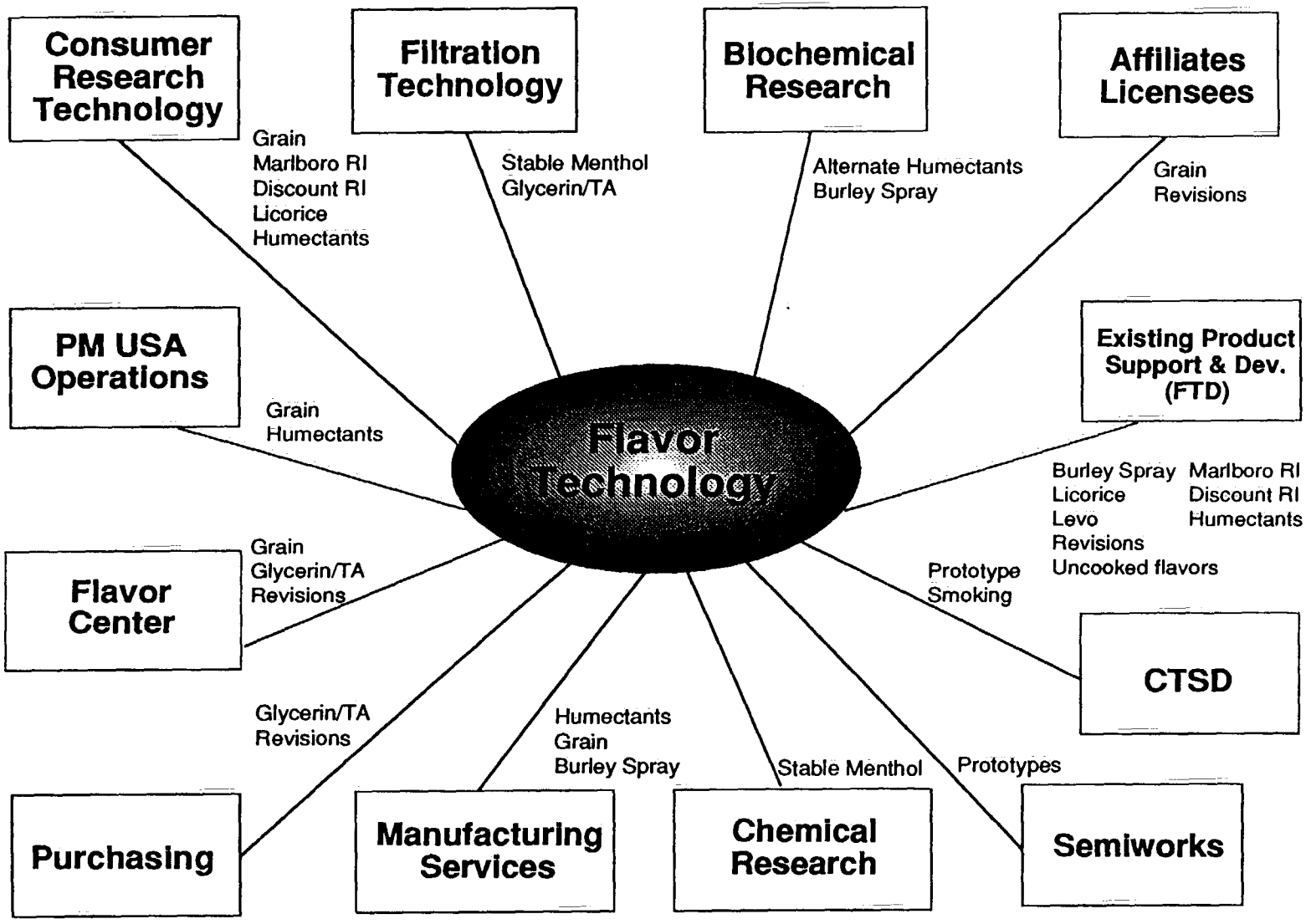
2021346209

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000



2021346210

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000



2021348211

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

DOMESTIC PRODUCT DEVELOPMENT AND SUPPORT

CONSUMER RESEARCH TECHNOLOGY | 1-5

Business Opportunities
- Develop business plans for existing and future products
- Develop understanding of forces in domestic and foreign markets
- Conduct research on predictive methodology for market outcomes

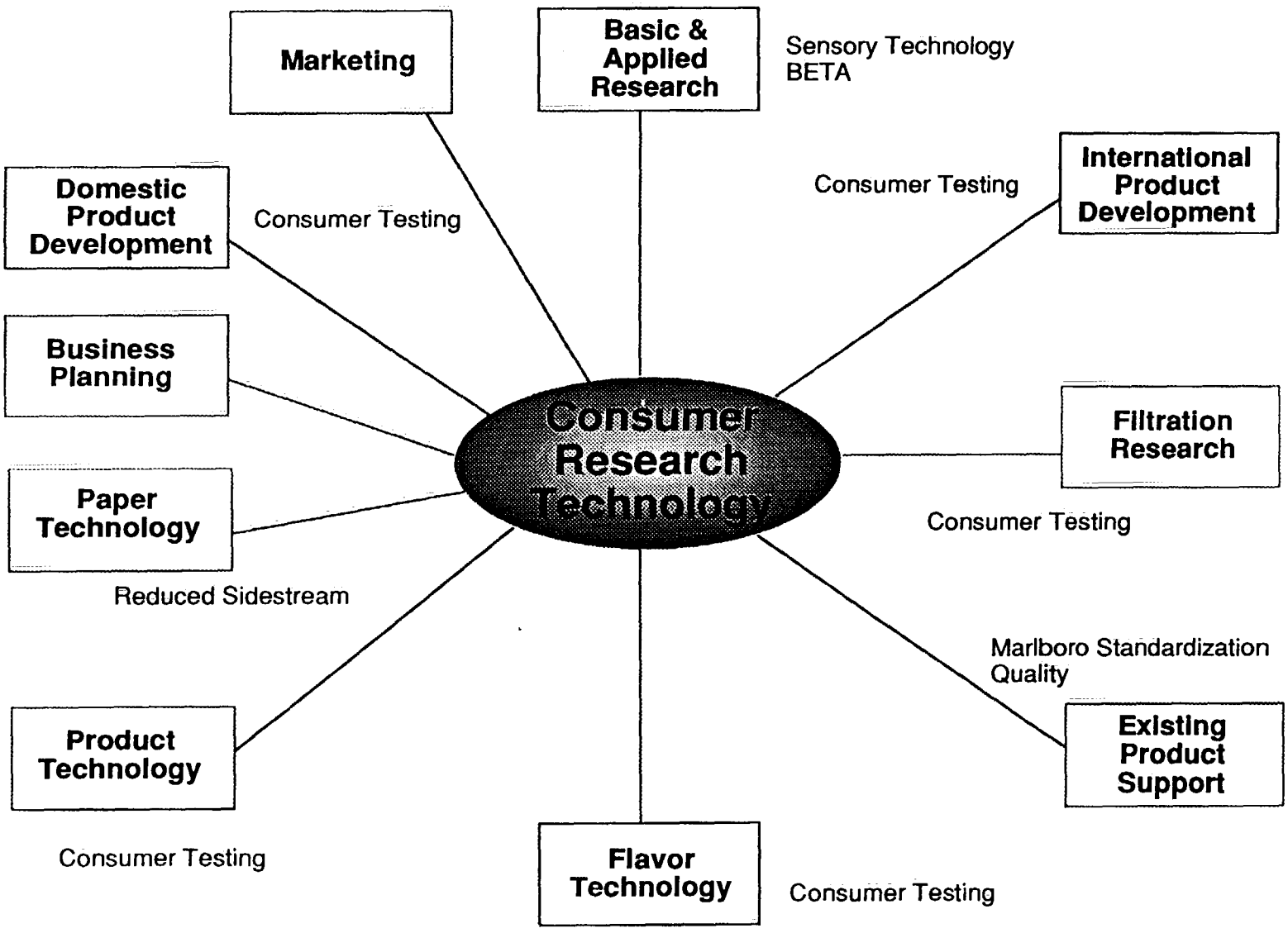
Sensory Research
- Study methodological sensory research
- Maintain external consumer panels

Consumer Perceptions of Product Benefits
- Investigate consumer lifestyles, behavior attitudes and perceptions of product features and identify or create new domestic or export market segments and opportunities
- Evaluate product features for perceived benefits/added value

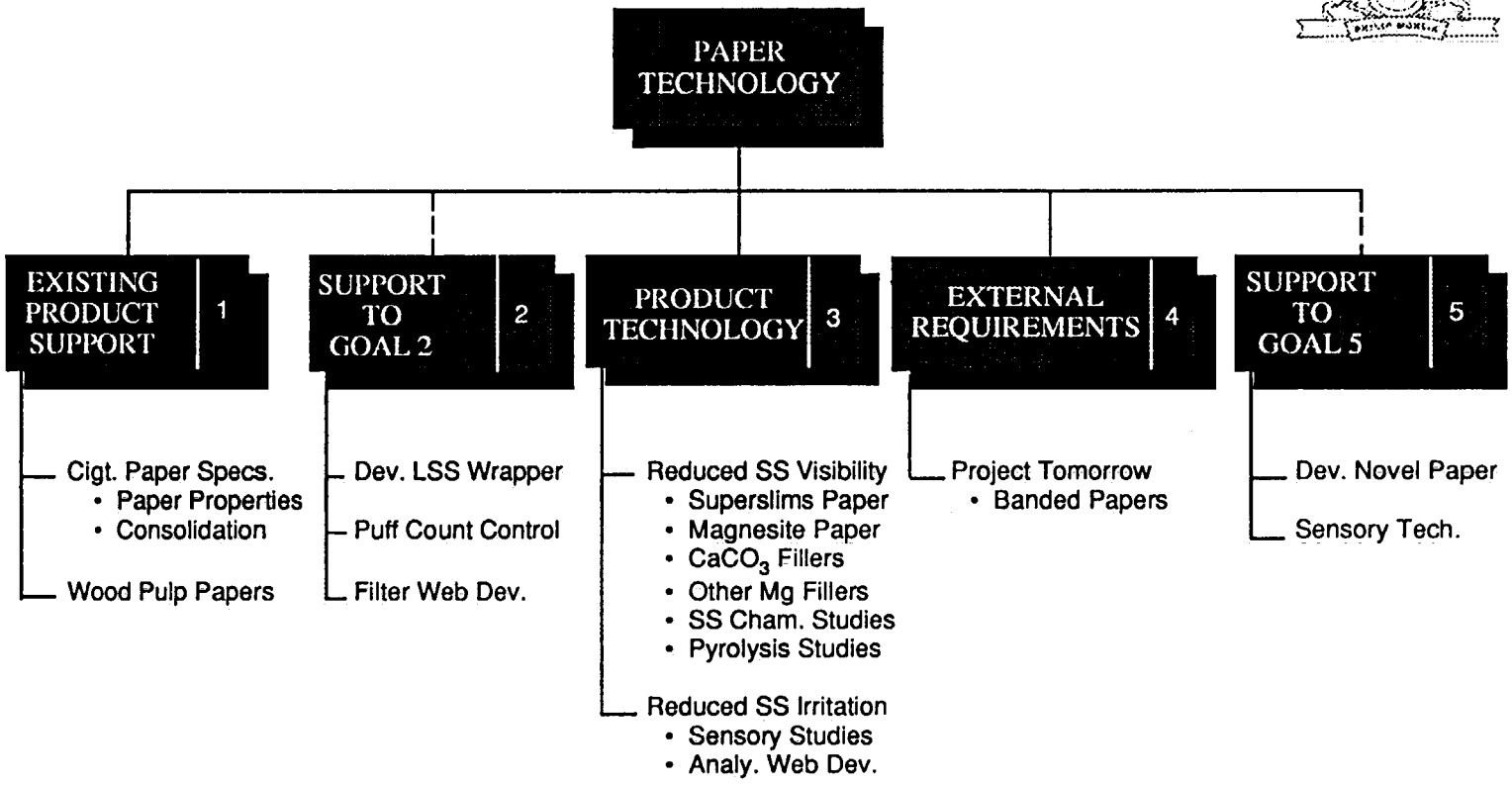
Applied Statistics
- Provide statistical consulting and assistance
- Conduct research in applied statistical methodology

2021346212

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

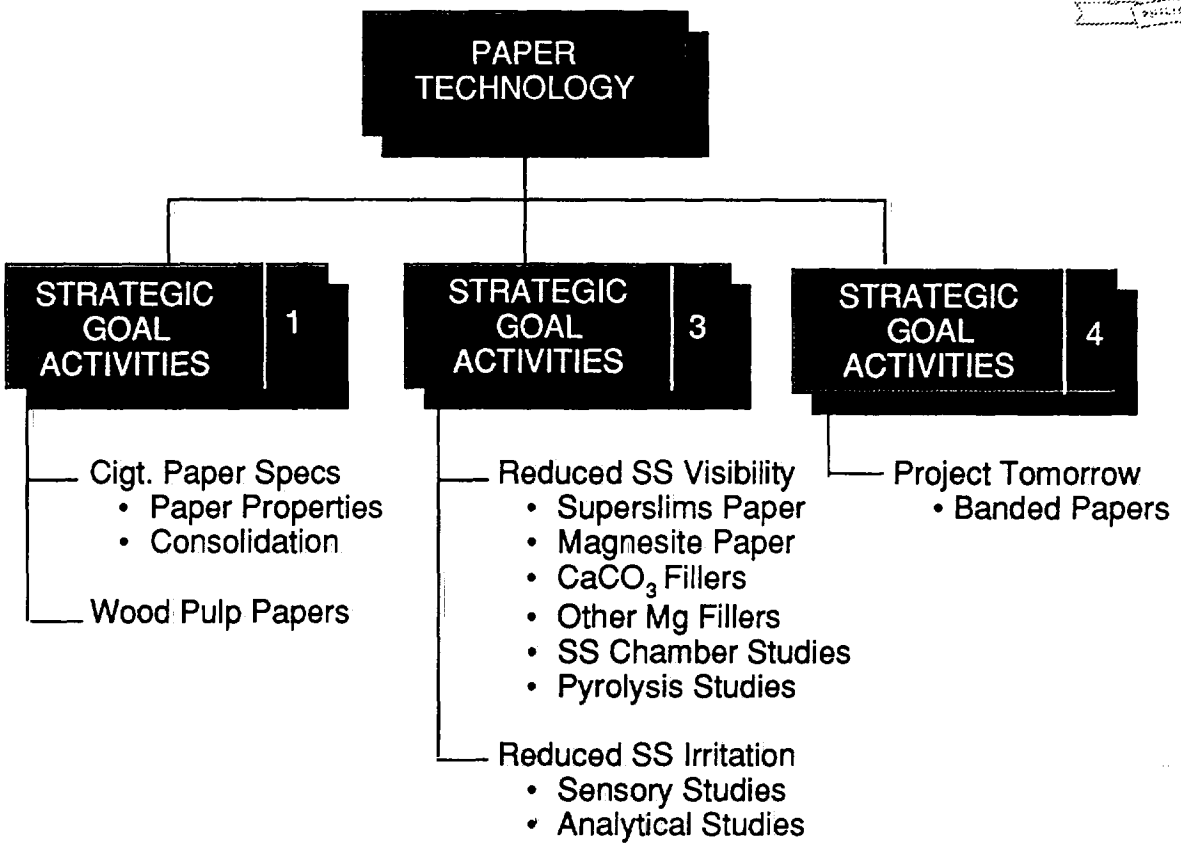


Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000



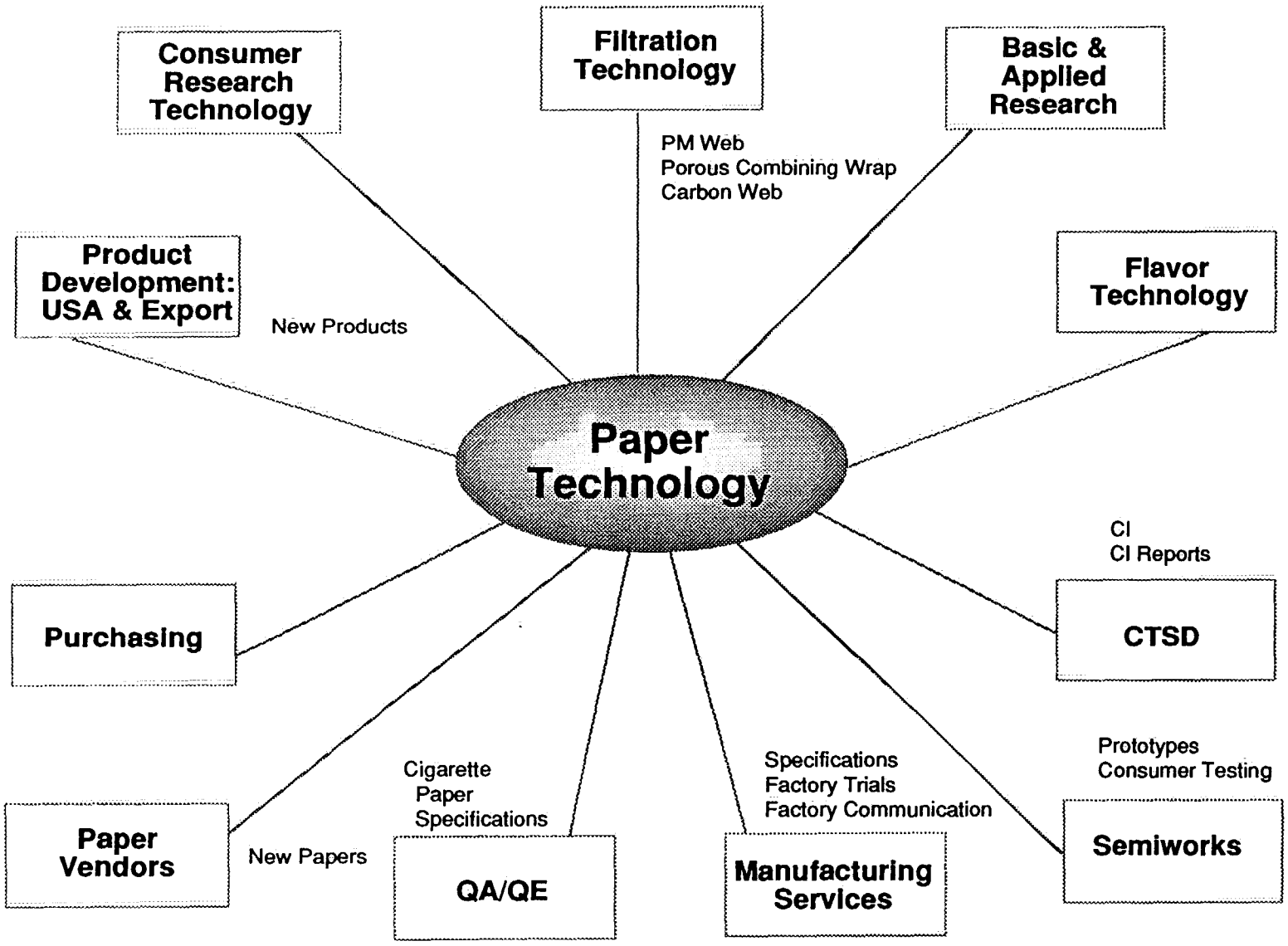
2021346214

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

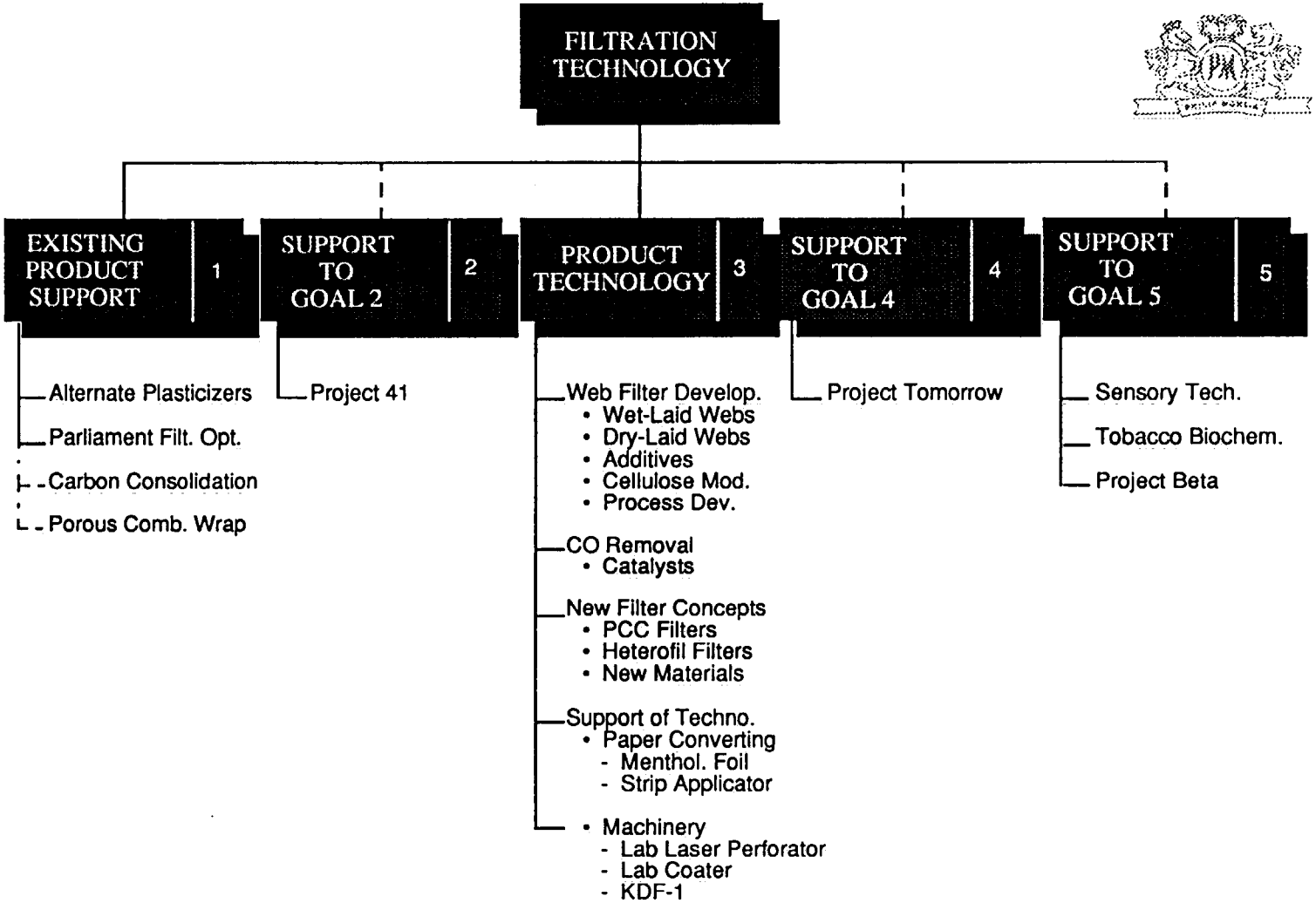


2021346215

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000



Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000



2021345217

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

FILTRATION TECHNOLOGY

STRATEGIC GOAL ACTIVITIES 1

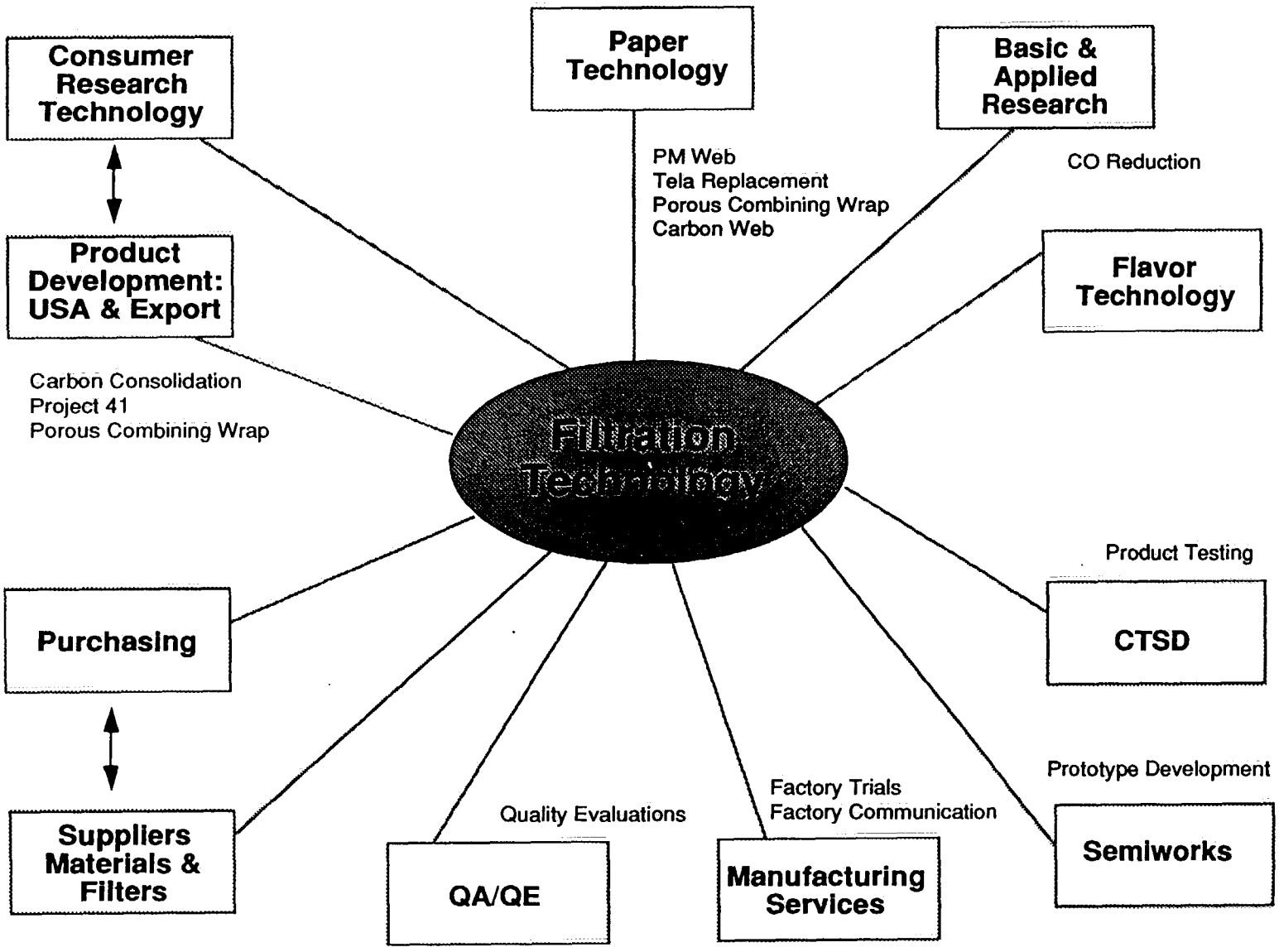
- Alternative Plasticizers
- Parliament Filter Optimization

STRATEGIC GOAL ACTIVITIES 3

- Web Filter Development
  - Wet-Laid Webs
  - Dry-Laid Webs
  - Additives
  - Cellulose Modifications
  - Process Development
- CO Removal (Selective Filtration)
  - Catalysts
- New Filter Concepts
  - PCC Filters
  - Heterofil Filters
  - New Materials
- Support of Technologies
  - Paper Converting
    - Mentholated Foil
    - Strip Applicator
  - Machinery
    - Lab Laser Perforator
    - Lab Coater
    - KDF-1

2021346218

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000



Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PRODUCT DEVELOPMENT

- **Domestic Product Development & Support**

- **International Product Development & Support**

PM USA - OPERATIONS - R&D

2021346220

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PRODUCT DEVELOPMENT

R&D Major Programs - 1992

Program	1992 Resources (Projected, %)
Domestic Product Development & Support	25.4
Operations Support	10.8
International Product Development & Support*	10.0
Paper Technology	8.2
Project Beta	5.9
New Expanded Tobacco	5.3
Tobacco Biochemistry	4.9
Cast Leaf	4.6
New Primary Process Program	4.6
Project Tomorrow	3.5
Filter Technology	3.4
Environmental Support	3.3
Sensory Technology	2.4
Total	92.3

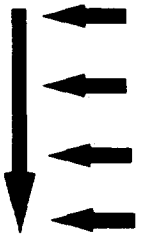
*Includes 39 PMPI Personnel

2021346221

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PRODUCT DEVELOPMENT

R&D FUNCTIONAL ORGANIZATION



- PM USA Marketing Plan
- PMI Marketing Plans
- PM USA Operations Plan
- PM USA R&D Strategic Plan

PM USA BUSINESS PLAN

R&D OPERATIONAL PLAN

MAJOR PROGRAM STRUCTURE

The Product Development Directorate has the lead responsibility for the following major programs:

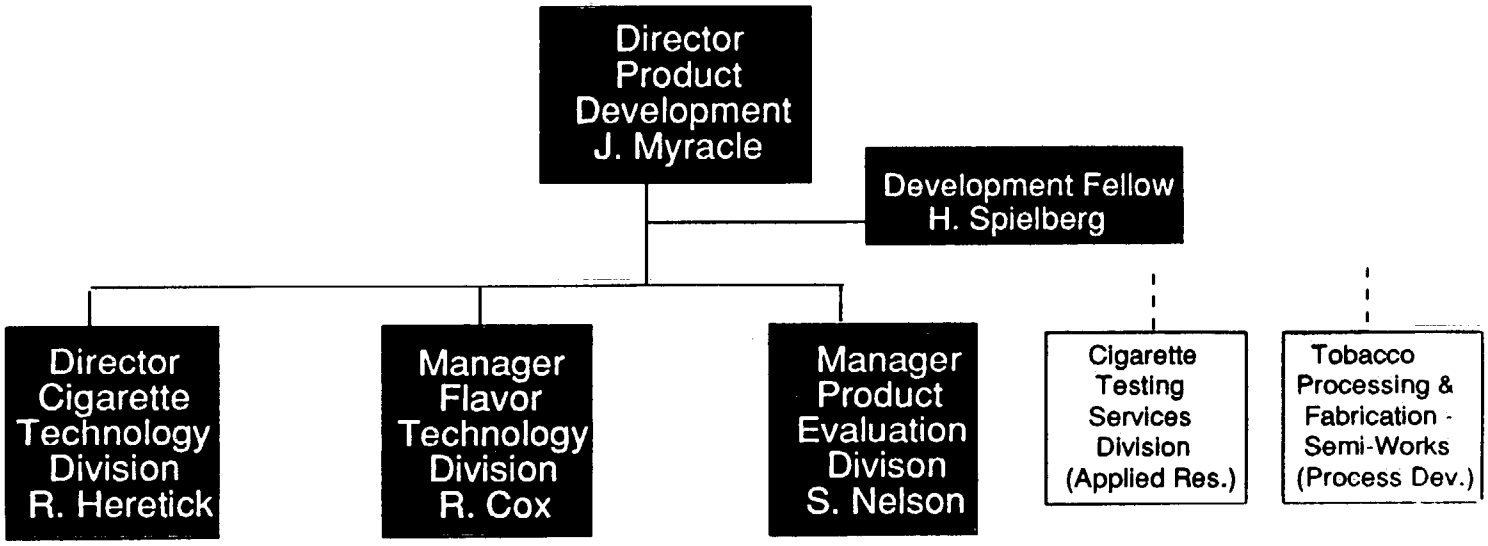
	1992 Resources
• Domestic Product Development & Support	25.4%
• International Product Development & Support	10.0%
• Paper Technology Program	8.2%
• Filter Technology Program	3.4%

2021346222

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PRODUCT DEVELOPMENT

FUNCTIONAL ORGANIZATION


Director Product Development J. Myracle
Development Fellow H. Spielberg
Director Cigarette Technology Division R. Heretick
Manager Flavor Technology Division R. Cox
Manager Product Evaluation Divison S. Nelson
Cigarette Testing Services Division (Applied Res.)
Tobacco Processing & Fabrication - Semi-Works (Process Dev.)

- Domestic Product Dev.
- Export Product Dev.
- Licensee/Affiliate Product Dev.
- Paper Technology
- Filter Technology

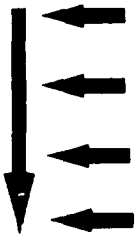
- Flavor Investigations & Support
- Domestic Flavor Dev. & Technology Support
- International Flavor Dev. & Brand Support

- Domestic Quantitative Qual. Res.
- International Quantitative Qual. Res.
- Applied Statistics POL Operations

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PRODUCT DEVELOPMENT

R&D FUNCTIONAL ORGANIZATION



- PM USA Marketing Plan
- PMI Marketing Plans
- PM USA Operations Plan
- PM USA R&D Strategic Plan

PM USA BUSINESS PLAN

R&D OPERATIONAL PLAN

MAJOR PROGRAM STRUCTURE

The Product Development Directorate has the lead responsibility for the following major programs:

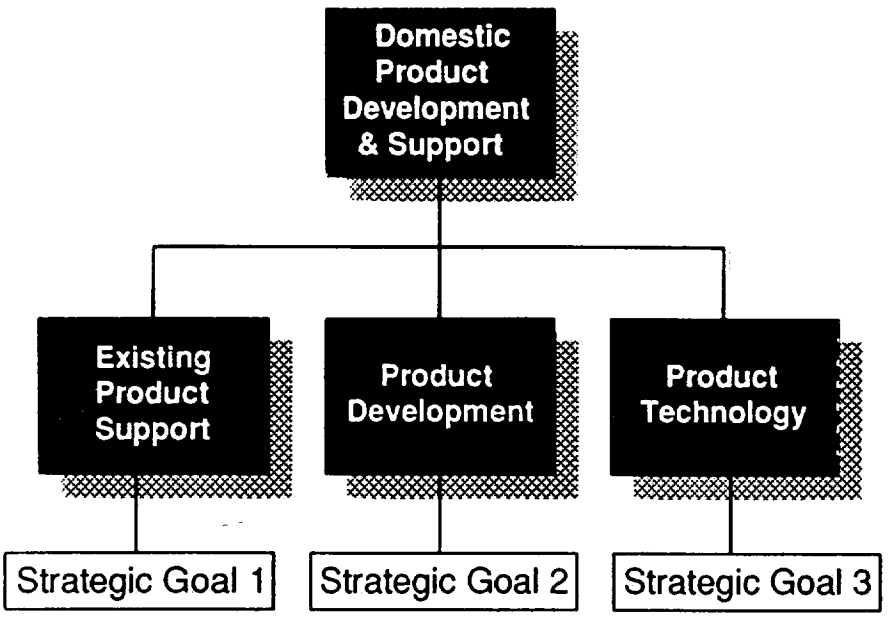
	1992 Resources
• Domestic Product Development & Support	25.4%
• International Product Development & Support	10.0%
• Paper Technology Program	8.2%
• Filter Technology Program	3.4%

2021346224

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PRODUCT DEVELOPMENT

Major Program Structure For: Domestic Product Development & Support



PM USA - OPERATIONS - R&D

2021346225

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PRODUCT DEVELOPMENT

Major Program Activity Classification For: Domestic Product Development & Support

Existing Product Support

- Quality
- Capacity and Flexibility
- Cost and Productivity
- Operations Plan Driven

Product Development

- New Commercial Products
- Typically Short Term In Nature
- Business Plan Driven
- Projects Involve:
  - Marketing
  - Sales
  - Engineering
  - Mfg. Services
  - Q.A.
  - Leaf Manufacturing

Product Technology

- "Tool Box" Programs
- Create Technologies To Be Incorporated In New Products Or To Support Existing Products
- R&D Plan Driven

2021345226

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PRODUCT DEVELOPMENT

R&D New Product Project/Program

R&D Development Process

- Blends
- Casing & Flavors
- Cigarette Design
- Evaluations
  - Internal
    - Analytical
    - Subjective
  - External
    - Consumer Testing

Marketing

- Concept/Proposition
- Advertising
- Packaging Design

Engineering

- Machinery Design

Manufacturing Services

- Purchasing

Manufacturing

2021346227

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PRODUCT DEVELOPMENT

Major Program Projects For: Domestic Product Development & Support

Existing Product Support

- Net Inclusion
- Packaging Solvent Evaluation
- Specification Consolidation Program
- Competitive Testing

Product Development

- Marlboro
  - Medium 100's
- Premium Value
  - B&H KS
  - Va. Slims K.S.
  - Parliament Men.
  - Merit (1,4,6 mg)
- Discount Brands
  - Alpine
  - Additional Line Extensions

Product Technology

- Project Art
- Low Tar/High Flavor
- Project Lotus
- Project Ambrosia
- Flavor Technology
  - Project Grain
  - Marlboro RI
  - Stable Menthol

Other R&D Contributing Programs

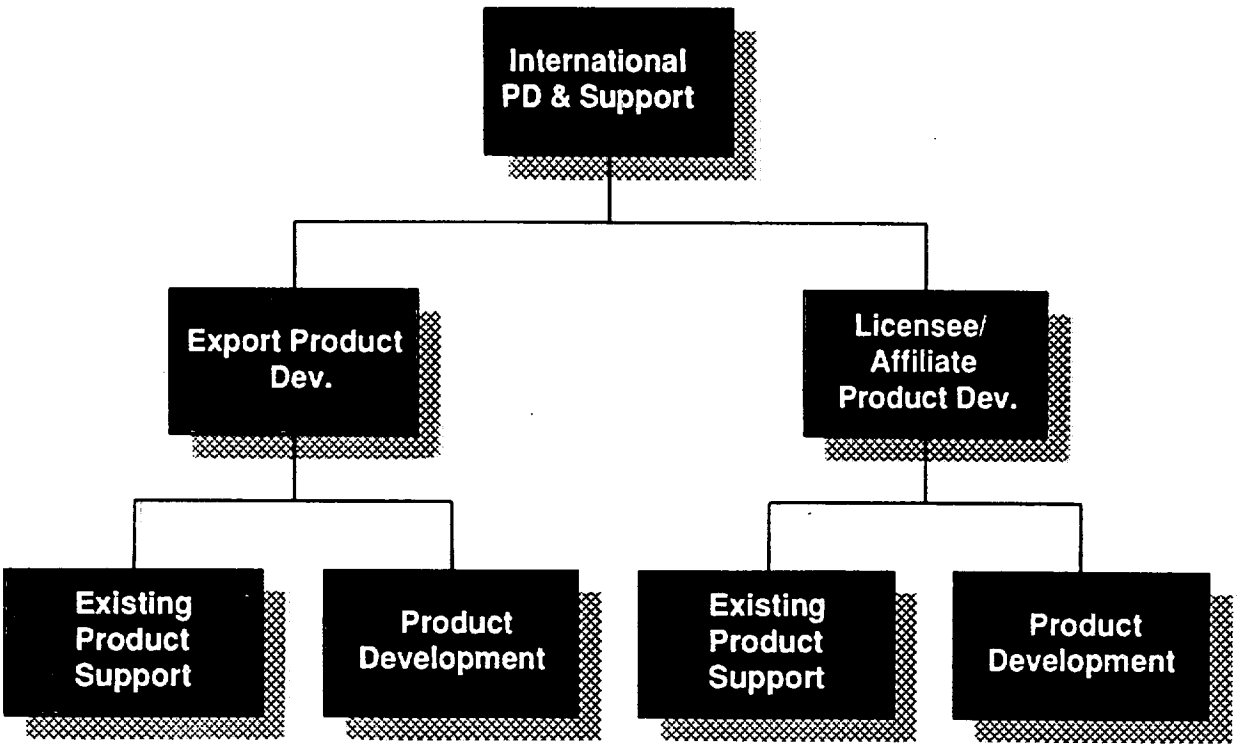
- Paper Technology
- Filter Technology
- Sensory Technology

2021346228

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PRODUCT DEVELOPMENT

Major Program Structure For: International Product Development & Support



PM USA - OPERATIONS - R&D

2021346229

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PRODUCT DEVELOPMENT

Major Program Projects For: International Product Development & Support

EXPORT PRODUCTS

Existing Product Support

- Repackaging of Existing Products
- L.S. → K.S. Box Conversions
- Lark Family Tar Reduction (Japan)
- Marlboro Family Tar Reduction (Korea)
- Merit Ultra Special KSB (GCC)

Product Development

- Project 41 (Japan)
- Marlboro 100's Box (Japan)
- Parliament Ultra Lights (Japan)
- NPD (Korea)
- Pan-Asia Menthol
- Evaluate PM USA Product Technologies
  - De-Nic
  - Project Lotus
  - Project Ambrosia
- Consumer Research
  - Danchi Panels
  - SCP
  - HKCP

2021346230

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PRODUCT DEVELOPMENT

Major Program Projects For: International Product Development & Support

LICENSEE/ AFFILIATE PRODUCTS

Existing Product Support

- Project Omega (MF, PHI)
- Ningbo Diet Utilization (China)
- Marlboro Improvement (L.A. - I)
- USA Flavor Sourcing (Mexico)
- Product Amethist (EEC)

Product Development

- Project Tang (L&M, Indonesia)
- Project Jupiter (MF, Malaysia)
- Monterey (China)
- Local Trademark Development (L.A.)

2021345231

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PRODUCT DEVELOPMENT

BENSON & HEDGES KING SIZE

General

- B&H KS offers the opportunity to participate in the largest product category with an existing premium trademark with minimal cannibalization of its current 100 mm packings.

B&H KS Menthol

- PM is under represented in the KS Menthol market.
  - B&H 100's Full Flavor Menthol is unusually popular among young adult black smokers; despite the fact that 100 mm length cigarettes are not.
  - Allegiance of young adult black smokers to their traditional brands -- Kool and Newport -- is suspect.
  - Black smokers are less likely to smoke a discount brand.

B&H KS Non-Menthol

- There is room for another KS Full Flavor Premium Brand with a strong heritage.
  - Switchers from Marlboro to competitive King Size Full Flavor products.
  - Young adult smokers if they decide to abandon Marlboro.

2021346232

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PRODUCT DEVELOPMENT

BENSON & HEDGES KING SIZE

- B&H King Size should be designed to appeal, sensorially and visually, to King Size smokers.
  - To the extent possible, it should appeal sensorially to smokers of competitive brands.

- Product options

	Non-Menthol		Menthol	
	F.F.	Lights	F.F.	Lights
Tar, mg	16	11	16	12
Circumference, mm	24.8	24.8	24.8	24.8
Tipping Color	Cork	Cork	Cork	Cork
Packing	83/Box	83/Box	83/Box	83/Box

PM USA - OPERATIONS - R&D

2021346233

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PRODUCT DEVELOPMENT

PAPER TECHNOLOGY PROGRAM

Program Objective:

Provide Cigarette Paper Product "Tools"
For New And Existing Products

This Program Suports:

Goal One: Support To Operations

- Development of PM Cigarette Paper Specifications
- Wood-Pulp Cigarette Paper

Goal Two: Product Development - Short Term

- Papers Which Control Burn Rate & Ash Flaking

Goal Three: Address Consumers Desires

- Project Lotus
- Project Ambrosia

Goal Four: Address External Requirements

- Banded Wrappers (Project Tomorrow)

PM USA - OPERATIONS - R&D

2021346234

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

PRODUCT DEVELOPMENT

FILTER TECHNOLOGY PROGRAM

Program Objective:

Provide Filtration "Tools" For New
And Existing Products

This Program Supports:

Goal One: Support To Operations

- Lark Combining Wrap
- Carbon Consolidation
- Alternate PZ's
- Eliminate Black Tow

Goal Two: Product Development - Short Term

- Paper Core Concentric Filter
- Carbon On Paper Web (Project 41)

Goal Three: Address Consumer Desires

- Web Filter Materials (Low Tar/High Flavor)
- Selective Filtration (CO Reduction)
- Hoechst Celanese Joint Development Program

PM USA - OPERATIONS - R&D

2021346235

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

2021346236

PM USA Operations

Charleston, SC

PM USA Operations

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

2021346237

RCV BY:Xerox Telecopier 7020 ; 3-13-92 ; 2:47PM ; CCITT G3→ OPERATIONS MGT. ;# 3

PM-USA 1992-1996
Business Objectives

I. Grow Income and Cash Flow

II. Achieve Share Targets

III. Maintain Unit Volume

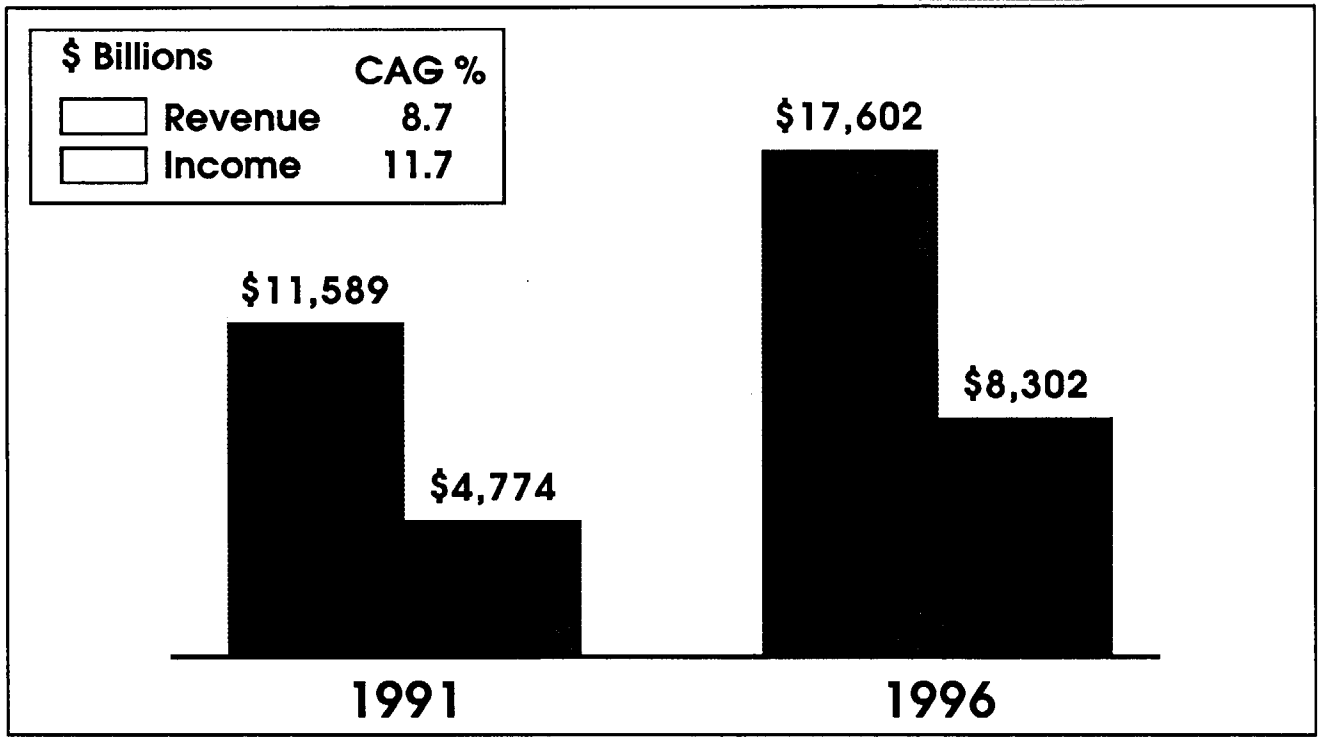
[redacted]

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

2021346238

PM USA Profitability

1991 – 1996



PM USA Operations

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

RCV BY:Xerox Telecopier 7020 ; 3-13-92 ; 2:48PM ;
CCITT G3→ OPERATIONS MGT.;# 5

Achieve Share Targets

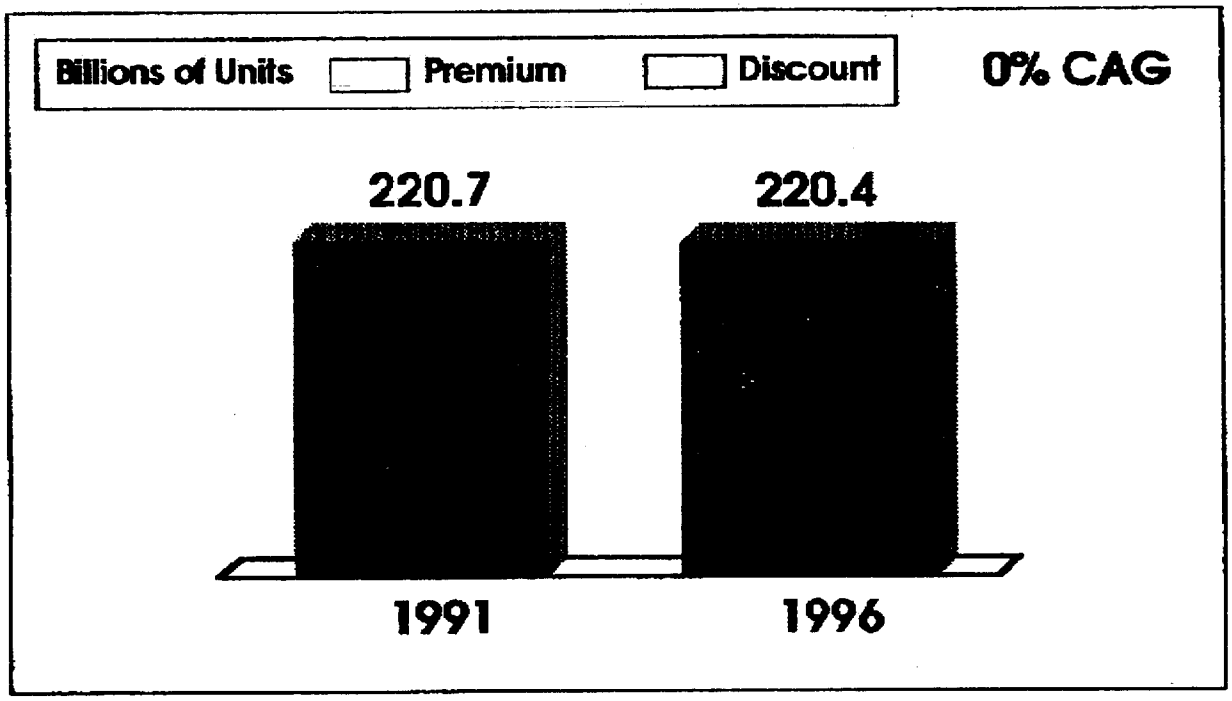
	1991	1996	Change
Total PM-USA Share	43.3%	49.7%	6.4
Total PM-USA Share of Premium Category	47.9%	59.0%	11.1
Total Marlboro Brand Share	25.8%	28.9%	3.1
Total PM-USA Share of Discount Category	29.5%	33.1%	3.6
Discount Share of PM-USA	17.0%	24.1%	7.1

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

2021346240

RCV BY:Xerox Telecopier 7020 ; 3-12-92 ; 3:20PM ; CCITT G3→ OPERATIONS MGT, ;# 6

PM USA Unit Volume



Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

RGV BY:Xerox Telecopier 7020 ; 3-13-92 ; 2:48PM ;
CCITT G3→ OPERATIONS MGT. ;# 8

2021346241

PM-USA Long-Term Strategy

- Enhance Premium Trademarks
- Capture Fair Share of Discount Growth
- Develop Economies of Scale
- Restructure Profitability

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

RCV BY:Xerox Telecopier 7020 ; 3-13-92 ; 2:48PM ; CCITT G3+ OPERATIONS MGT. :# 7

PM-USA Strategic Goals

- **Reverse Industry Strategy of Offsetting Volume/Share Declines with Accelerated Premium Pricing**
- **Improve Profitability of Low End**
- **Maximize Competitive Advantage**
  - **Four Premium Trademarks**

[redacted]

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

RCV BY:Xerox Telecopier 7020 ; 3-13-92 ; 2:48PM ; CCITT G3→ OPERATIONS MGT. ;# 8

2021346243

Enhance Premium Trademarks

- Income/Cash Flow Objectives
- Competitive Advantage
- Lengthen Life Cycles

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

Competitive Advantages

- New Products
  - Sidestream smoke reduction
  - Odor reduction
  - Ignition propensity
  - Alternative products

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

2021346245

Competitive Advantages

- Low-Cost Producer by Category
  - Global Leaf Purchasing
  - New Expanded Tobacco
  - Manufacturing Integration
  - New Primary Process
  - Flexibility
  - Fixed Cost

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

2021346246

RCV BY:Xerox Telecopier 7020 ; 3-13-92 ; 2:50PM ; CCITT G3→ OPERATIONS MGT. ;#11

Industry Situation

- Declining Volume
- Aging Population
- Pricing in Excess of Inflation
- Accelerating Pack Sales
- Growth of Discount
- Weakening Mix

[redacted]

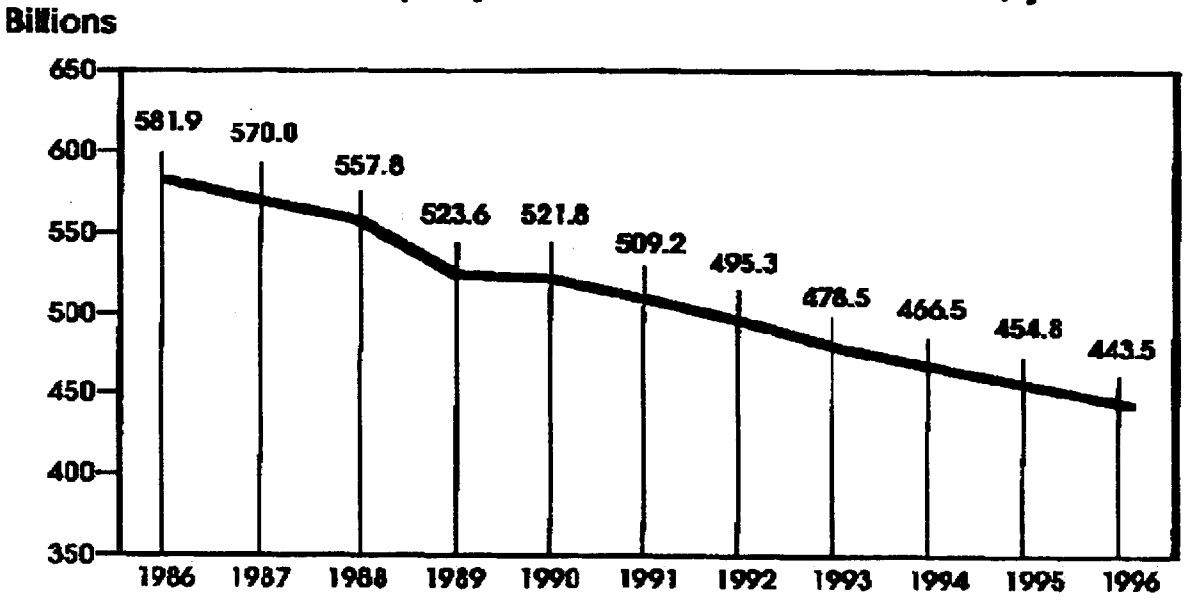
Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

2021346247

RCV BY:Xerox Telecopier 7020 ; 3-13-02 ; 2:50PM ; CCITT G3→ OPERATIONS MGT. ;#12

Industry Volume

Decline is projected at 14 billion units/year



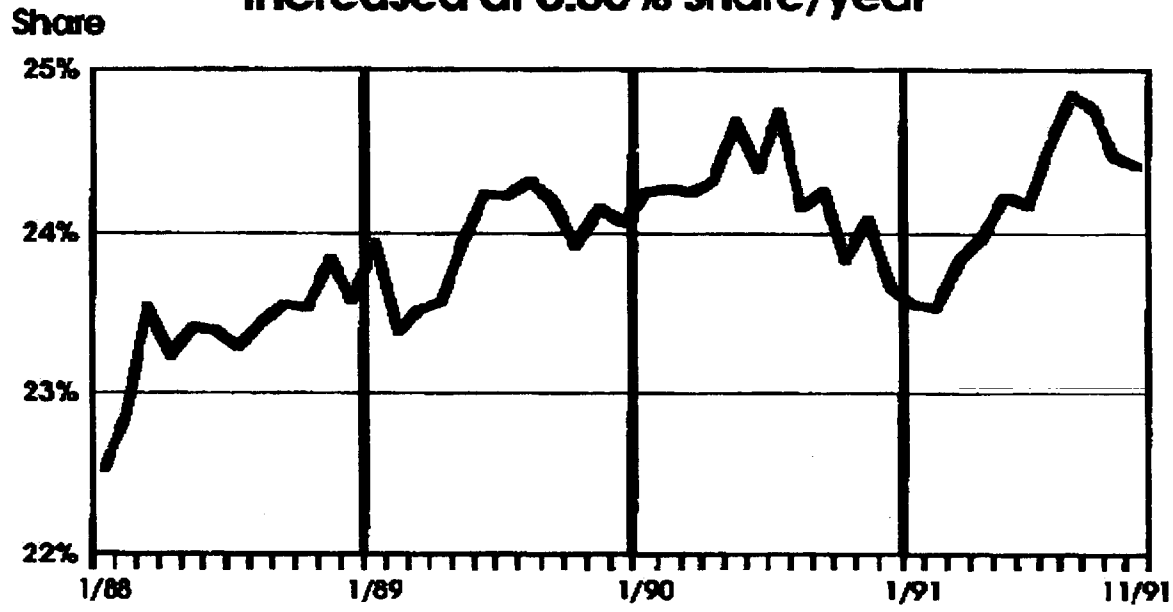
Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

2021346248

RCV BY:Xerox Telecopier 7020 ; 3-13-92 ; 2:51PM ; CCITT G3→ OPERATIONS MGT. ;#15

Marlboro Performance

Increased at 0.35% share/year



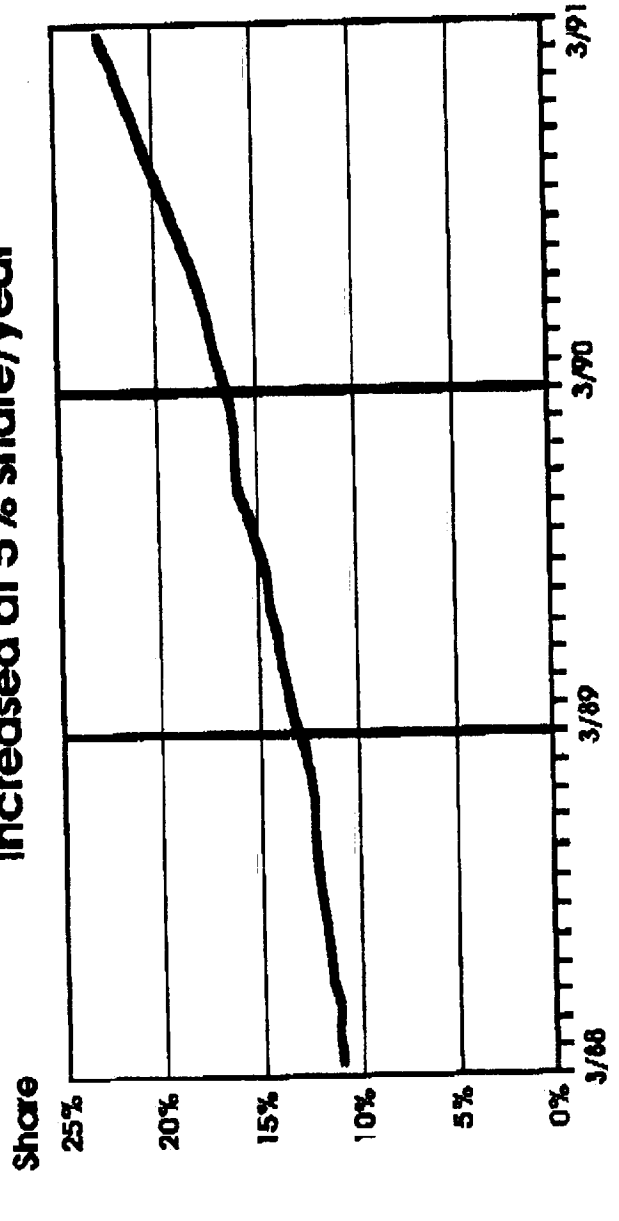
[redacted]

Source: New Nielsen Monthly Data

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

2021346249

Discount Share of Industry



Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

RCV BY:Xerox Telecopier 7020 ; 3-13-92 ; 3:26PM ; CCITT G3→ OPERATIONS MGT. ;# 5

Demographic Model

1991 – 1996

	Marlboro	Other Premium Brands
1991 Existing Smoker Volume	131.2B	52.0B
Socio/demographic losses	(20.1)	(11.5)
"1991" loss to Discount	(25.4)	(6.9)
New Smoker Volume	+23.7	+1.2
New Product Volume	+8.2	+1.3
1996 Volume	117.6B	36.1B

[redacted]

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

2021346251

RCV BY:Xerox Telecopier 7020 ; 3-13-92 ; 3:28PM ; CCITT G3~ OPERATIONS MGT. ;# 0

Forecast Volume vs. Model Volume

1996

	Forecast	Model*	Difference	% of Fair Share In Forecast
Marlboro	128.2 B	117.6 B	(10.6 B)	57%
Other Premium	39.2	36.1	(3.1)	43%
Discount	53.0	53.0	0.0	N/A
Total	220.4 B	206.7 B	(13.7 B)	

* "Fair Share"

[redacted]

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

RCV BY:Xerox Telecopier 7020 ; 3-18-92 ; 3:27PM ; CCITT G3→ OPERATIONS MGT.:#10

2021346252

Performance Parameters

1991 – 1996

	1991 Actual	1992	1996	Change '91 – '96
Factory Utiliazation (%)	69.2	70.3	75.6	6.4
Rejects (%)	4.1	4.0	3.2	0.9
CPLH (thousands)	20.2	21.4	24.1	3.9
Direct Materials Waste (%)	5.8	5.6	5.0	0.8
Leaf Yield (%)*	100.3	100.6	100.4	(0.1)

* Brand mix effect

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

2021346253

RCV BY:Xerox Telecopier 7020 ; 3-13-92 ; 2:52PM ; CCITT G3→ OPERATIONS MGT. ;#18

Operations

- Increase Production Flexibility to Support Brand Proliferation
- Keep Manufacturing Cost Increases Below Inflation
- Utilize Global Leaf Markets to Ensure Adequate Supply
- Become Low Cost Producer/Price Segment
- Provide Consumer Benefits to Support Price Premiums
- Institute New Management Culture to Meet Challenges of Changing Marketplace

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

2021346254

Productivity Savings

1992 - 1996 FYP

	($ Millions)
Variable Manufacturing	
Manufacturing Programs	$175.3
Capital Programs	150.6
Productivity Programs	147.0
Production Overtime / Partial Days	73.4
Total Variable Savings	$546.3
Fixed Manufacturing	
Volume	$185.5
Productivity Initiatives	(136.6)
Fixed Manning Reductions	57.1
Total Fixed Savings	106.0
Total Manufacturing Productivity Savings	$652.3

PM USA Operations

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

2021346255

RCV BY:Xerox Telecopier 7020 ; 3-13-92 ; 3:25PM ; CCITT G3→ OPERATIONS MGT. ;# 2

Reorganization Around Primary Business—Cigarette Manufacturing

Realign Emphasis to Focus On:

- **Maximize Return on Fixed Assets, Both Human and Capital**
- **Re-examine Added Value Contributions to Primary Business**
- **Develop New Business Standards and Measuring Tools**

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

RCV BY:Xerox Telecopier 7020 ; 3-13-92 ; 3:25PM ; CCITT G3→ OPERATIONS MGT. ;# 3

2021346256

Maximize Cash Flow from Operations

Future Issues

- **Capacity No Longer the Major Issue**
- **Gains in Utilization and CPLH Have Little Value — Except Where:**
  - **Labor savings are actually incurred (headcount reductions)**
  - **Low efficiency is transferred to higher efficiency production**
  - **Machinery disposal occurs**
  - **International production is absorbed**

⇩

Asset Utilization Becomes Primary Focus

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

RCV BY:Xerox Telecopier 7020 ; 3-13-92 ; 8:25PM ; CCITT G3→ OPERATIONS MGT. ;# 4

Goals

- **Flexible, Efficient, Quality Manufacturing Capability**
- **Re-think R&D, Engineering, Manufacturing Services and Leaf Support Requirements**
- **Lower New Capital Infusion Requirements**
- **Streamlined Administrative Suppct**
- **Planning Functions**
- **Highly Skilled Management and Labor Force**

⇩

Low Cost Producer per Category

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

Domestic Product Development & Support
Existing Product Support

PROGRAM COORDINATORS: R. Cox, V. Willis, G. Yatrakis

A. ET/NET Product Inclusion

Objective: To substitute and evaluate NET materials in existing brands.

Strategy: Evaluate the substitution of NET processed #10 bright for DETA and incremental replacement of bright.

Strategy: Evaluate models that incorporate NET processed BLDET, burley and bright in various brands initially at current rates. The qualification of increased levels of NET materials in the various blends will be done on a secondary basis. Merit, Merit Ultra Lights, and Marlboro will be evaluated first.

Strategy: Evaluate models replacing DETA with BLDET at various levels in major brands.

B. CIGARETTE MANUFACTURING O.V.

Objective: Determine appropriate O.V. for cigarette manufacturing.

Strategy: Recommend appropriate adjustment to 24-hour pack O.V. targets and Tropical Filler targets.

Strategy: Propose O.V. manufacturing O.V. targets based on equilibrated O.V. 's of tobacco, composition of O.V.'s, factory conditions and effects of packaging materials.

C. PED PRODUCT QUALITY PROJECT.

Objective: Define and measure the determinants of consumers' perceptions of quality

Strategy: Conduct consumer surveys to rank cigarette defects with respect to their importance to consumers and consumers' awareness of them.

2021346258

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

Strategy: Analyze taste/odor/stale complaints to relate their frequencies to brand and smoker group characteristics - 2nd Qtr.

Strategy: Conduct surveys of complainants about TOS and other defects - 2nd Qtr.

D. PACKAGING STUDIES:

Objective: Qualify a supplier of waterborne printing ink.

Strategy: Establish a partnership with an ink company committed to waterborne inks.

Strategy: Develop an analytical method for the quantitation of the solvent components used in waterborne ink systems. Investigate the feasibility of static absorption by activated carbon in collecting residual solvent components of printed packaging material.

Objective: Develop a working database for Packaging Studies.

Strategy: Supply Computer Applications Division (CAD) with information needed to meet our computer needs.

Objective: Revise and update threshold and specification levels for gravure solvents as solvent mixtures used on printed packaging material changes.

Strategy: Determine threshold levels on various printing solvents which may be used on press.

Objective: Evaluate new package concepts for feasibility in the marketplace.

Strategy: Determine if pre-applied adhesive can be used successfully on cut labels.

Objective: Determine the effects of high barrier film on our product.

Strategy: Develop an analytical technique which will determine the barrier properties of overwraps, current and developmental.

Strategy: Determine the impact of the improved sealant layer developed by Hoechst for their high barrier OPP films on pack seal efficiency. Determine the impact of the Hoechst film on the product's ability to maintain targeted

2021346259

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

moisture levels in the desert and jungle rooms. Perform a preliminary subjective test to qualify the Hoechst High Barrier films.

Objective: Determine if products with Flavorseal packaging maintains their physical, chemical and subjective properties longer than products with polypropylene overwrap.

Strategy: Compare the polypropylene overwrap with the Flavorseal overwrap for the Winston and Winston Lights 100's SP and Salem and Salem Lights 100's SP.

E. FACTORY MODERNIZATION SUPPORT.

Objective: To provide support for the subjective qualification of factory primary modernization programs.

Strategy: Qualify the new MZM export strip operation at McKinney, VA.

Strategy: Qualify new P & S Dryer at the MC.

Strategy: Replace new dryer at single rate.

Strategy: Replace and qualify A/C cylinder at the MC.

Strategy: Qualify two new bulk alcohol storage tanks at M/C.

Strategy: Qualify Direct Cylinder Conditioning at Cabarrus.

Strategy: Qualify reconditioned S-2 CO_2 storage tank at M/C.

Strategy: Qualify DIET stem reclamation from the VT separator.

Objective: Evaluate and modify Semi-Works Small Scale to achieve parity with Large Scale.

Strategy: Small Scale Processing will continue to be used as a screening tool to reduce the number of samples requested for large scale processing.

Strategy: Establish operating procedures and processing parameters for the new equipment.

2021346260

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

Strategy: Examine the individual processing steps and strive to understand and minimize the differences between Large Scale and Small Scale.

F. TOBACCO MATERIALS AND RECLAMATION.

Objective: Subjectively evaluate returned goods and/or out of specification filler to determine most cost effective disposition

Strategy: Determine most cost effective disposition (ripper, expanded, sheet products) of filler while maintaining subjective integrity.

G. PROCESSING PLANT SUPPORT.

Objective: Provide Flavor Technology support to Park 500 for flavor systems and process modifications to address capacity, economic, environmental and overall quality issues.

Strategy: Provide support for the evaluation of by-products utilization at Park 500.

Strategy: Develop and evaluate alternate denitration options with Process Development through separate Burley stem processing.

Objective: To subjectively evaluate materials from the Flavor Center which show found to show borderline analytical results.

Strategy: Analytically and/or subjectively evaluate suspect materials submitted through Operations Services from the Flavor Center.

Objective: To qualify potential alternate sources of RL to address capacity issues.

Strategy: Develop and evaluate alternate(Jobbers) sources of RL with the RLTC flavor system to address long term capacity and European sourcing issues.

Objective: To increase capacity by increasing line speed at the BL Plant.

Strategy: Conduct a dryer study to determine the temperature profiles for the existing line at the BL plant in order to predict dryer temperature profiles needed at 350 fpm.

2021346261

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

Objective: Develop a liquid flavor system to replace dry flavors in RCB while maintaining subjective parity.

Strategy: Implementation will be supported by the preparation of drums of 75-700 at the Flavor Center and personnel will monitor the initial startup. Initial RCB (100%) cigarettes will be subjectively evaluated by members of Group 2305.

Objective: To increase the utilization level of mentholated tobacco dust in RCB.

Strategy: Request trials of the elevated levels of Class 6 in Cast Leaf Pilot Plant prior to production trials.

Objective: To evaluate unwashed burley stems replacing washed burley stems in RCB to address environmental effluent issues.

Strategy: Subjectively qualify unwashed burley stems in production RCB.

Objective: To support cooked flavor production and scale-up the reactor at the Flavor Center. To qualify alternate sources for high fructose corn syrup and asparagine.

Strategy: Flavor Technology personnel will support these goals through collaborations with Operations Services, Engineering, Purchasing and Flavor Center personnel to formulate with the alternate materials and evaluate 75-814 from the improved reactor system.

H. SUBJECTIVE PANELS.

Objective: To provide subjective evaluations (rod and smoking characteristics) of prototypes, modifications of existing brands, new brands and monitoring of competitors' products.

Strategy: Conduct evaluations on development programs, monitoring of domestic competitive brands and any problems associated with production and/or processing plants.

Objective: To provide training, maintenance and support to auxiliary panels (e.g., Richmond, Semi-Works, filter, paper and Cast Leaf.)

2021346262

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

Strategy: Train auxiliary panels to screen development prototypes and to judge acceptability of final products.

Objective: To provide subjective evaluations (rod and smoke characteristics) of development prototypes, modifications of existing brands and monitoring of export (PM and competitors) brands.

Strategy: Continue to monitor existing brands and provide subjective evaluations in prototype development. Further training will be conducted to standardize panel.

I. MARLBORO STANDARDIZATION.

Objective: To identify and reduce sources of variations in PM brands between production and processing facilities.

Strategy: Conduct factory pickups and a standard run to monitor the quality of Marlboro by subjective and analytical testing.

Objective: Provide training, maintenance and support to factory panels which could possibly identify and reduce sources of taste/odor/stale customer complaints.

Strategy: Training for factory panels and quarterly panel leader workshops will be conducted. The factory panels will monitor their daily production which could identify and possibly reduce taste/odor/stale customer complaints. Factory panels will also evaluate factory pickups and Standard Run X for monitoring purposes.

Objective: Subjectively test externally (POL testing) Marlboro product from different production locations.

Strategy: POL testing (monadic evaluation) of scheduled factory pickups and cigarettes produced from Standard Run X. This will aid in defining Marlboro control regions and provide continuous monitoring of the different factories.

2021346263

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000

J. CIGARETTE STORAGE/TRANSPORTATION/SHIPPING STUDY

Objective: Define the impact of cycling temperature and humidity typically seen within shipping containers and the effects of heating and cooling cycles on product discoloration, staining, subjectives, and analyticals.

Strategy: Subjectively evaluate the fifteen models that were shipped to KGF and returned to Richmond without being exposed to the simulated study with cycling temperature and humidity conditions. Evaluate each of the models from the scheduled acquisitions of the simulated study and compare them to the control to determine when and how the subjective effects of the products changed.

Strategy: Repeat the testing in Strategy #1 with specified models and conditions for the Export Product Standardization - Singapore and the GCC Study to determine the effects of cycling temperature and humidity conditions in the shipping containers. Conditions, based on previous data, will be simulated in a controlled environmental chamber.

Objective: Determine the impact of adverse environmental conditions upon the subjective character and analytical specifications of finished products. Compare the results of this study with similar studies conducted using products with carbon filters.

Strategy: Environmental testing with subjective and analytical tracing to determine the effect of subjectives and flavor at adverse conditions.

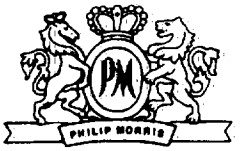
Objective: Determine the subjective and analytical changes in products with carbon in filters which occur under various conditions with age.

Strategy: Environmental testing with subjective and analytical tracing to determine the effects of subjectives and flavor at adverse conditions

gny/opplan.eps.sum

2021346264

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000



1992
Philip Morris USA R&D
Product Development Department
Operational Plans

Confidential

Copy No. 1

Issued To: J. MYRACLE

2021346265

Source: https://www.industrydocuments.ucsf.edu/docs/ktkl0000